10¢ A COPY

The OIL WEEKLY

Exclusively Devoted To The Production and Transportation of Oil and Gas

February 22, 1929 **Volume 52. No. 10**

"Ordinary Couplings Don't Suit Me"

"And they won't suit you either—after you've tried Harrisburg Couplings awhile.

"All couplings used to look alike to me too—but not any more!

"Why should I take chances with the 'tough breaks' ordinary couplings bring when by specifying Harrisburg I get a coupling produced by a company that controls every phase of its manufacture from steel making to finishing?"

"You can't think of any good reason.

"Well, neither can I. That's why it's Harrisburg for mine."

HARRISBURG PIPE & PIPE BENDING CO.
Harrisburg, Pa.

Fully Equipped with Our Own Open Hearth Furnaces, Rolling Mills and Forge Shops

DISTRIBUTORS:
Harrisburg Supply Co., Tulsa, Okla.
Harrisburg Pipe & Pipe Bending Co. of Texas, Inc., Houston, Texas
George J. Hausen, Inc., San Francisco, Los Angeles and Taft, Calif.

HARRISBURG
Forged Seamless Steel Couplings

DU PONT ANNOUNCES

a paint made especially for the petroleum industry— "general purpose" in scope

Petro Paint is highly resistant to sulphur fumes—adapted for systems for all types of surfaces

THE petroleum industry has maintenance battles to fight unknown in any other field. On leasehold property, tanks, refineries, pumping stations—for a host of uses in transportation and marketing equipment, ordinary paints cannot stand the gaff. They blacken—become unsightly—everywhere soon deteriorate.

Now du Pont offers a line of paints scientifically made to solve just these problems—to meet economically your special requirements in beautifying and preserving your property. Petro Paint is a "special purpose" finish of wide adaptability in your industry—not only for wood, but for systems applicable to metal, plaster, concrete—to all types of surfaces.

Du Pont chemists develop remarkable new formula

Paints based on white lead blacken rapidly under sulphur fumes. Lithophone used alone fails by excessive chalking and mildewing. Zinc oxide used alone causes cracking. Eventually, after extensive experiment, du Pont scientists decided on the prime pigment portion of Petro Paint: lithophone, zinc oxide and titanium oxide pigment. Inert pigment was added to give greater durability. Field and laboratory tests determined the proportions to bring out the most desirable features of each element.

A fundamental study of driers was made. A vehicle was developed which overcame many difficulties hitherto unsolved. Ease of brushing was attained. Petro Paint sets a completely new standard for beauty, efficiency and economy.

7 reasons why Petro Paint solves your problems

Consider these characteristics of Petro Paint as applied to your own specific painting problems:

1. Petro Paint is highly resistant to sulphur fumes and aqueous vapors.
2. It is adapted for systems designed for all types of surfaces.
3. On tanks it curtails evaporation. It has the remarkable quality of retaining its original brilliance and cleanliness for a long period of time without fading.
4. It has greater durability under any conditions.
5. It leaves a good surface for repainting.
6. It can be applied under adverse temperature conditions. It does not crawl on cold surfaces.
7. It hides better than other mixed paints—is very economical.

Petro Paint gives you an opportunity to use *color* effectively wherever you wish.

Send for further information

If you will send the attached coupon or write on your business letterhead, we will send you our Technical Bulletin No. 4 and full data about the Petro Paint line. Du Pont technical men are always available to study your specific finishing problems.

Mail this coupon

E. I. du Pont de Nemours & Co., Inc.
Petroleum Division, Dept. OW-1, Parlin, N. J.

Send me your Technical Bulletin No. 4 and further data about Petro Paint as applied to my problem.

Name .....

Firm ..... Position .....

Address .....

DU PONT

REG. U. S. PAT. OFF.

PETRO PAINTS

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1897.

. . . . . all combined in a pump you really should investigate!

Here, men, is a pump built after your own hearts.

Designed to take punishment and ask for more. As husky a "baby" as has ever been made for this class of service and yet the smoothest, slickest in point of operation, you've ever seen or heard!

TIMKEN roller-bearings in drive and crank shaft. Positive, *automatic* lubrication. Center drive with herring-bone gears. Dust-proof crank case. Gas engine or electric motor operation. Ideal for any service within its limitation!

Every man who has to do with pump purchase, service or operation wants to keep abreast of pump developments. Here is a model that merits investigation. Ask us to give you full details.

GASO PUMP & BURNER MFG. COMPANY
Tulsa, Oklahoma
Texas Office—
210 Petroleum Bldg., Fort Worth, Texas

Illustration shows cover removed.

Gaso Enclosed Type All Timken Bearing Power Pump. Available in three types of fluid end—[1] Valve Pot Type, [2] 7-inch Suction Type, and [3] Interchangeable Liner Type [as shown in the illustration]. Capacity of the Interchangeable Liner fluid end varies from 63 barrels per hour at 800 pounds pressure, with 2½-inch liner, to 250 barrels per hour, at 250 pounds pressure, with 5-inch liner.

GASO PUMPS
for every oil industry need

IDECO

Derricks and Rig Equipment keep your wells in production

STRUCTURAL STEEL DERRICKS

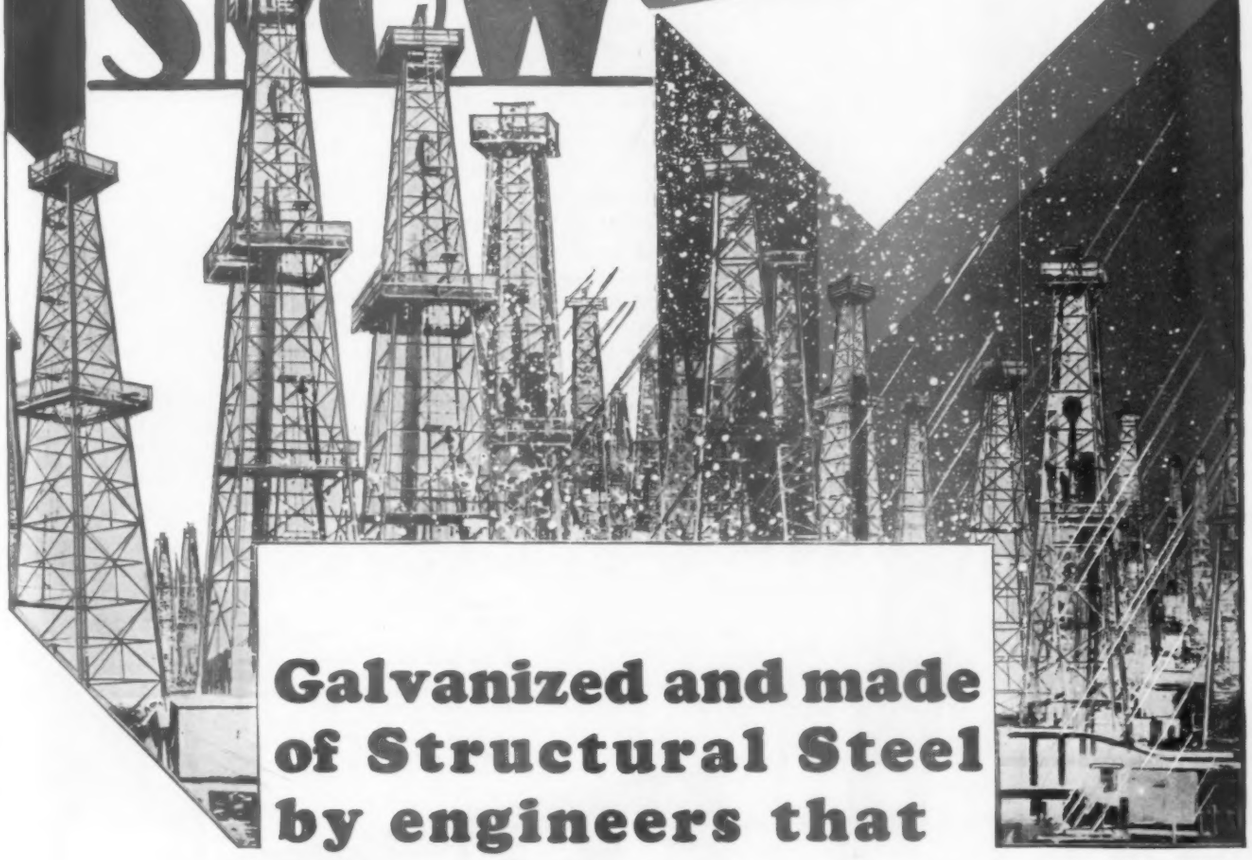
The International Derrick & Equipment Company

Columbus, Ohio **Torrance, Cal.**

IDECO

OR

SHOW SIEET



Galvanized and made of Structural Steel by engineers that know how

AND RIG EQUIPMENT

Branches and Stocks—New York, N. Y.; Detroit, Mich.; Dallas, Fort Worth, San Antonio, Houston, Mexia, Wichita Falls, Pyote, Odessa, Amarillo, Luling, Borger, Corsicana, Pampa, Panhandle, Big Spring, Trent, Orange, Bruni, Texas; Shreveport, Oil City, Lake Charles, La.; El Dorado, Smackover, Ark.; Wichita, El Dorado, Valley Center, Kans.; Tulsa, Oklahoma City, Tonkawa, Drumright, Shidler, Okemah, Seminole, Allen, Sasakwa, Maud, Wewoka, Okla.; Los Angeles, Torrance, Bakersfield, Taft, Calif.; Maracaibo, Venezuela.

Export Representation: 74 Trinity Place, New York City; Columbus, Ohio; Houston, Texas; Los Angeles, Calif. 605

H. C. Smith Type C Coring Outfit Complete

for *sure results* there is *NONE BETTER*

The High Efficiency and Low Cost of H. C. Smith Type C Coring Outfit, have been forcefully demonstrated in numerous tests and long use in many fields. Its superior performance, speed, economy and dependability attract the attention of operators wherever it is introduced. Many operators are firmly convinced that, for taking long and perfect cores in any formation that a fishtail or disc bit will penetrate . . . there is none better than the H. C. Smith Type C Coring Bit. The reasons for the positive results it produces, are unmistakably apparent in its outstanding features: Simplicity of design; Ruggedness of construction; Drop-forged high-carbon steel throughout; Renewable cutterheads that can be changed in a few seconds and, when worn, be economically discarded; Core-catcher in bit sub; All cutterheads especially adapted for use with hard sets and hard facing metals; All blades cut to same gauge, thus keeping hole "out to gauge."

Write for special folder on the H. C. Smith Type C Coring Outfit complete.

H. C. Smith Manufacturing Co., Inc.

Los Nietos, California

Branch Offices and Warehouses:

Bakersfield, Calif. **Ventura, Calif.**

Ask for data on the new H. C. Smith Type "B" Demountable Drilling Bit. All four blades cut to same gauge, thus keeping hole "out to gauge." Serrated construction of bit blades allows easy penetration in either hard or soft formations.

H.C. SMITH

TYPE C CORING OUTFIT

Say you saw it in The OIL WEEKLY

A Letter from Harry G. Nye

NYE

Thin Blade Cutter Wheels Knurled or Smooth Edge

Made to Fit All Standard Makes of Pipe Cutters

Knurled Edge

Smooth Edge

Nye cutter wheels are made from the highest grade tool steel, and are hardened and tempered in oil. Blades about 1/16th of an inch thick and straight from hub to cutting edge. Cut with one-third the time and power required by the old type wheels. And also they are—

ABSOLUTELY GUARANTEED

TO THE OIL MEN OF THE U. S. A.

Fellow Citizens:

Well, I see the Coolidges are about to be put out into the street, because the Hoovers have taken the house That's the worst of being a minister of the Methodist church or a president of the United States. You just get the hall switch located, and know how long it takes to fill the tub, and then you have to move on.

Every four years we spend several million dollars to hire a president, and then, in eight years at the most, we fire him and hire a new one. If we ran our shops and factories the way we run our government we wouldn't make a cent, and sometimes we don't anyway.

But perhaps these companionate presidents are a good idea. Even if they're good we don't keep them so long that they spoil, and if they're bad we've got something to look forward to. The only two things we have had sense enough to put a limit on are the seven years itch and an eight year president.

Personally I think it would be a great mistake to elect any man for a third term. It is bad enough now, the way he keeps his eye on a second term all through his first term; but if he kept his eye on a third term all through his second term we wouldn't get any service whatsoever.

And, in case we make a mistake, eight years is enough. Too much is quite sufficient. We might send some fellow to the presidential chair sometime that we ought to have sent to the electric chair; but, thank goodness, in eight years anyhow we can give him a hearty breakfast of ham and eggs and end it all.

And it is a good thing in another way. Every boy is taught that he has an equal chance to become president, but, luckily he never cared enough about arithmetic to sit down and figure it out. But I hope no boy will get discouraged because there happened to be 45,200,000 boys in the United States and only one presidency.

But, if he can't be president, he can be an oil man, and use Nye Tools and live happy ever after. If our presidents had as good tools to work with as our oil men, etc., have, they would live longer, and happier, because Nye Tools work so much faster and easier. We think we'll send Herb a die.

Faithfully yours,

HARRY G. NYE,

Otherwise Known As

THE NYE TOOL & MACHINE WORKS

4120-30 Fullerton Avenue

Chicago, Ill.

(Copyright, 1928, by Harry G. Nye. All rights reserved.)

Nye Drop Forged Pipe Cutter

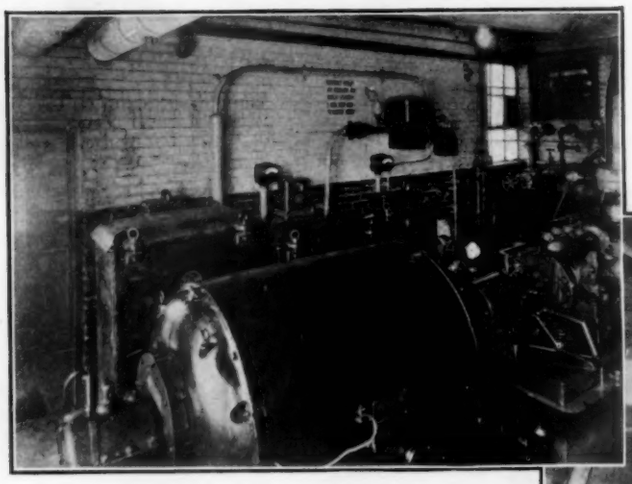
No. 1-A	⅛ to 1¼"	$2.75 net
No. 2-A	⅛ to 2"	3.30 net
No. 3-A	1 to 3"	5.50 net

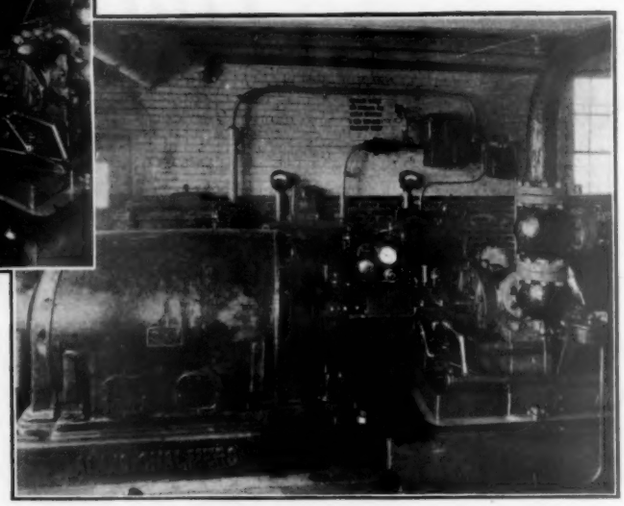
Nye Self-Locking Vise

No.	Pipe	Vise, Complete Net
00	⅛ to 2 "	$2.82
10	⅛ to 2½"	3.34
20	¼ to 3½"	5.00
30	½ to 4½"	7.33

Nye Saunders Pipe Cutter

No. 1	⅛ to 1"	$2.00 net
No. 2	1 to 2"	3.00 net
No. 3	2 to 3"	7.33 net
No. 4	2½ to 4	12.00 net
No. 5	4 to 6"	18.67 net





Two views of the Sun Oil Company's three step, oil-immersed 2300 volt starter for a 500 HP, 3600 RPM synchronous motor.

E & M C Flame-Proof Control Operates This Oil Pump

Starting a 5 stage centrifugal pump which runs at 3600 R.P.M. and delivers hot oil to the stills presents two problems—one of fire hazards and the other of correct starting.

EC&M oil-immersed flame-proof starting equipment, which is safe for use in explosive atmospheres such as may exist in this plant, eliminates the problem of fire hazards.

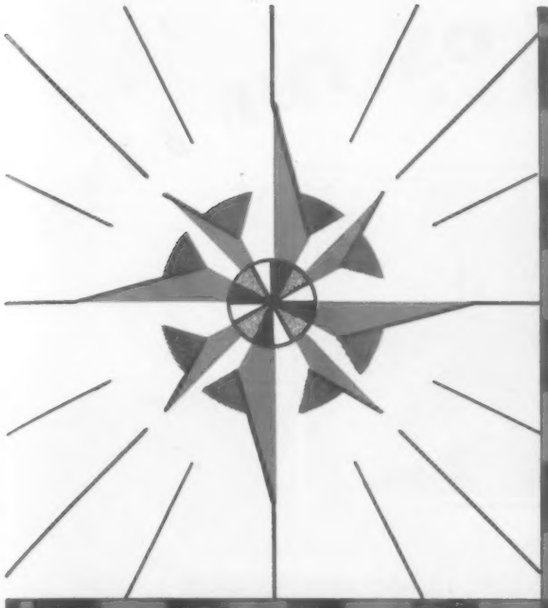
To insure correct starting of this centrifugal pump, in which the load increases as the cube of the speed, EC&M engineers solved the problem by providing a three-step starter. This insures smooth acceleration from starting to synchronism and eliminates line surges. All 2300 volt potential parts, including a transformer which supplies 220 volts for the control circuit, are self-contained and totally oil-immersed in the enclosing tanks. Operating a small master switch, which handles the 220 volt control circuit, energizes the starter which automatically starts, brings up to speed and synchronizes the synchronous motor.

Automatic starting not only eliminates attendants, but if accomplished correctly will cut down power consumption, peak demands and often avoid the necessity for additional equipment.

THE ELECTRIC CONTROLLER & MFG. CO.

NEW YORK-50 CHURCH ST. **CLEVELAND, OHIO** PHILADELPHIA-WITHERSPOON BLDG.
CHICAGO-CONWAY BLDG. HOUSTON-1006 WASHINGTON AVE. PITTSBURGH-OLIVER BLDG.
DETROIT-DIME BANK BLDG. LOS ANGELES-912 E. THIRD ST. SAN FRANCISCO-CALL BUILDING
BIRMINGHAM-BROWN-MARX BLDG. SALT LAKE CITY-228 SO. W. TEMPLE MONTREAL-CASTLE BLDG.
CINCINNATI-1ST NATIONAL BANK BLDG. TORONTO-REFORD BLDG. TULSA-217 E. ARCHER ST.

Say you saw it in The OIL WEEKLY



CAST STEEL VALVES AND FITTINGS

KERO TEST

USED THE WORLD OVER

Carried in Stock and Sold by

NORVELL-WILDER HARDWARE CO.
Houston, Beaumont, Shreveport, Fort Worth

OIL WELL SUPPLY COMPANY
Branch Stores in all Oil Fields

Export Distributors

OIL WELL SUPPLY COMPANY
Pittsburgh, New York, Tampico, London

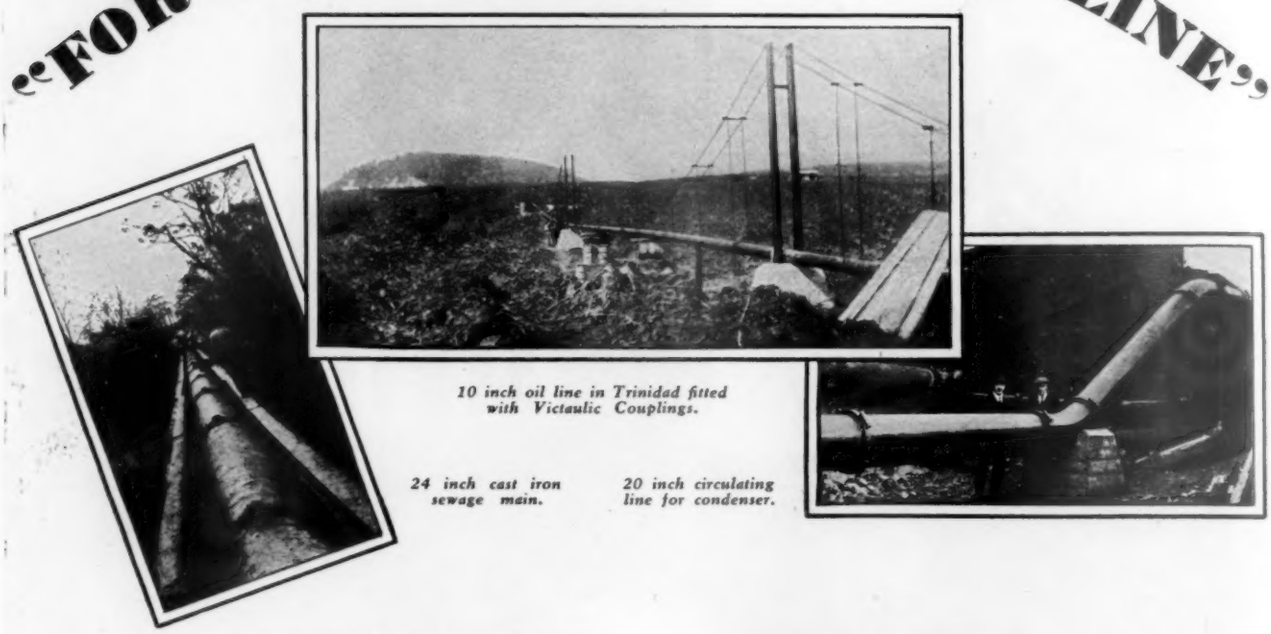
KERO TEST

PITTSBURGH

Manufactured by

KEROTEST MANUFACTURING COMPANY
Pittsburgh, Penna.

"FOR EVERY JOINT ON THE LINE"



10 inch oil line in Trinidad fitted with Victaulic Couplings.

24 inch cast iron sewage main.

20 inch circulating line for condenser.

VICTAULIC COUPLINGS

The same reasons led to the selection of Victaulic Couplings for these lines—speed, ease and economy in installation, permanent leak-tightness and freedom from line distortion. Victaulic Couplings can be installed by unskilled labor. They can be fitted in place faster than any other coupling—in a fraction of the time needed for screwed, flanged or caulked joints. They are not affected by line sag or vibration. Every Victaulic Coupling is a flexible joint which takes care of contraction and expansion in the pipe lengths it connects.

Victaulic Couplings are supplied for all sizes of steel, wrought iron and cast iron pipes from ¾ inch up—for all pressures from vacuum to ten tons pressure per square inch. Victaulic Fittings make it easy to connect the line with any existing lines. Mail the coupon for Victaulic Bulletin.

VICTAULIC DISTRIBUTORS:

Western
SMITH SEPARATOR COMPANY
Tulsa, Oklahoma

Pa., Md. and W. Va.
JOINER IRON WORKS
Clarksburg, W. Va.

Canadian
D. B. McWILLIAMS
Toronto, Canada

New England
EASTERN SERVICE COMPANY
Boston, Mass.

Illinois and Indiana
BELL & GOSSET
Chicago, Ill.

Minnesota, Wisconsin
F. S. VAN BERGEN
Minneapolis, Minn.

Ohio
CASE HARDENING SERVICE COMPANY
Cleveland, Ohio

VICTAULIC COMPANY OF AMERICA
26 Broadway, New York

The all-purpose coupling.

"For every joint on the line"

FLEXIBLE LEAK-PROOF
VICTAULIC
REG U.S. PAT. OFF.
PIPE COUPLINGS

For list of uses and users and detailed information on Victaulic Couplings, fill in and mail this coupon

VICTAULIC COMPANY OF AMERICA
26 Broadway New York

Please send Victaulic Bulletin No. 8.

Name .....

Address .....

FOR CRUDE OIL, GAS, WATER, SEWAGE, COMPRESSED AIR, ETC.

Say you saw it in The OIL WEEKLY

DREADNAUGHT

THE PERFECT HAND

AND HIGH SCORE

A. Dreadnaught Water Cooled Drawworks.
K. Dreadnaught Straight Line Crown Blocks.
Q. Dreadnaught DeLux Traveling Blocks.
J. Dreadnaught Rotary Drilling Slips.
10. Dreadnaught Plain or Make and Break Rotaries.
9. Dreadnaught Wheel Pumping Jacks.
8. Dreadnaught Steel Walking Beams.
7. Dreadnaught Pumping Hoists.
6. Dreadnaught Pumping Counter Weights.
5. Dreadnaught Tubing Hooks.
4. Dreadnaught Tubing Spiders and Slips.
3. Dreadnaught Tubing Blocks.
2. Dreadnaught Tubing Tongs.

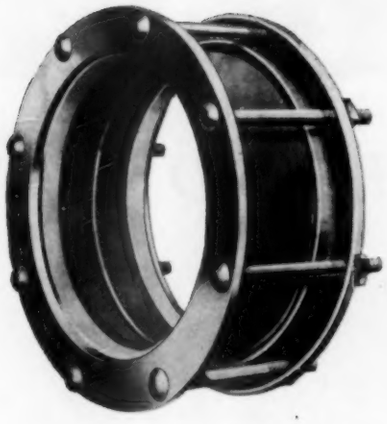
DREADNAUGHTS ARE TRUMPS

BEAUMONT IRON WORKS CO.

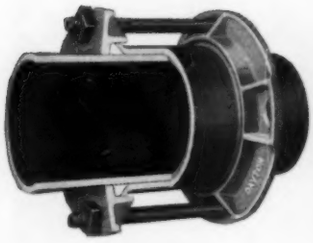
Makers of DREADNAUGHTS

BEAUMONT **TEXAS**

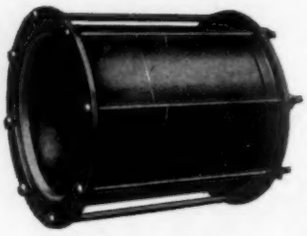
Say you saw it in The OIL WEEKLY



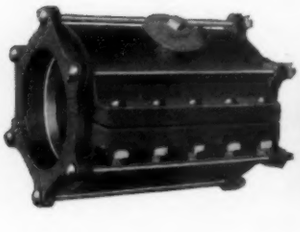
No. 1
ALL STEEL COUPLING



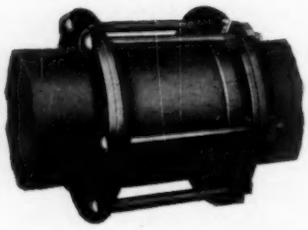
No. 4
COUPLING



No. 5
COUPLING

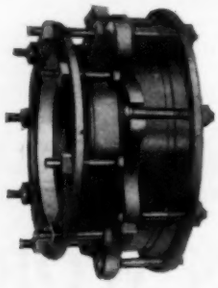


No. 8
COUPLING



No. 9
COUPLING

No. 7
COUPLING



No. 1½
REDUCING COUPLING

DAYTON
PIPE LINE REQUIREMENTS

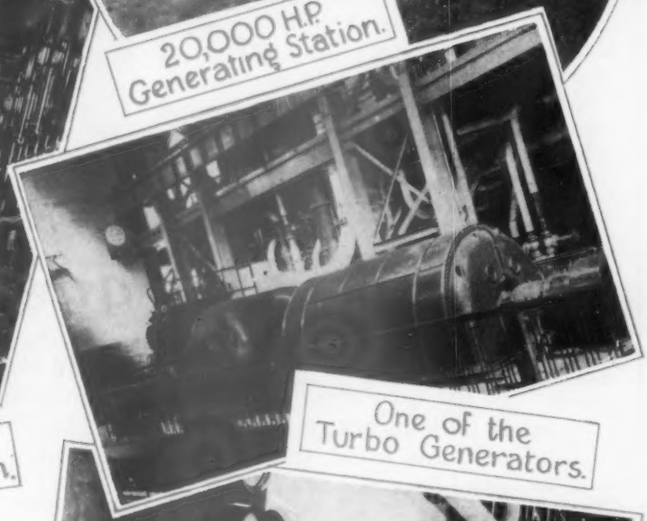
THE
NATIONAL SUPPLY
COMPANIES

MORE SERVICE for West Texas

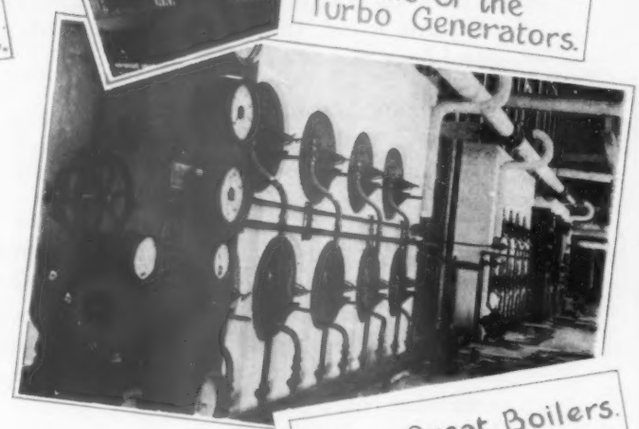
views from Generating Station LAKE PAULINE

20,000 H.P. Generating Station.

Auxiliary Switch Room.



One of the Turbo Generators.



Three Great Boilers.

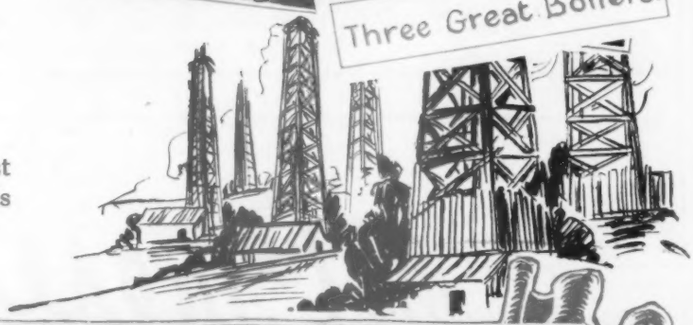
WITH THE COMPLETION of this new 20,000 horsepower generating station, five miles southeast of Quanah, the available capacity of the West Texas Utilities Company was increased to 70,000 horsepower.

—with 2,000 miles of high tension lines in actual service

—carrying dependable POWER to 108 communities, in 42 of the most productive counties in West Texas

and Providing—

—enough reserve power to serve at least half-a-hundred MORE communities in this rich Land of Opportunity.



WEST TEXAS UTILITIES COMPANY

In the Land of Opportunity

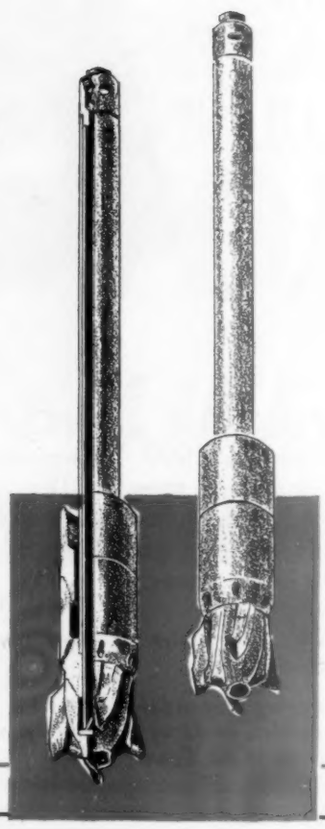
stops costly guessing

answers your questions

It has been worth its weight in gold many times to the far-sighted operators and companies using it. The minute a Perfection Core Barrel is moved on your lease, the costly element of guess and gamble is removed.

The clean, unbroken cores that it can take for you will quickly prove its worth. More than 50% of the major oil companies of America are already Perfection users.

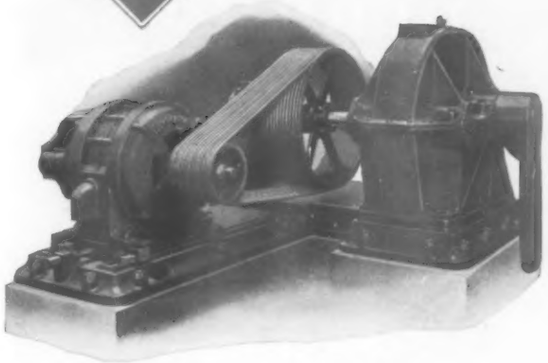
They like its simplicity and rugged strength that stands the punishment. Its Split Liner appeals to them. And they can depend on the heat treated Chrome Nickel Steel, Stellite faced cutter head to take cores easily in the hard formations. Write today for full information.



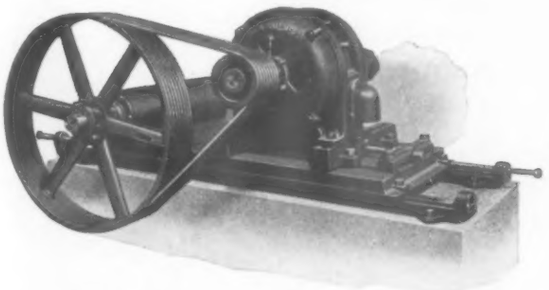
The Brewster COMPANY~INC.
SUCCESSORS TO OIL CITY IRON WORKS INC.
Shreveport, Louisiana

Distributed by: Continental Supply Co., *All stores*—Wilson Supply Co., *Houston and Beaumont, Texas*—Hercules Supply Co., *Dallas, Texas. Exporters:* Continental Well Supply Company, 74 Trinity Place, New York City, N. Y.

Serves the Industry



Double Reduction Oil Well Unit
Ratings—15-35; 20-50; 25-65 H.P.



Single Reduction Texrope Countershaft
Ratings—15-35; 20-50; 25-65 H.P.

Allis-Chalmers—Pittsburgh Distribution Transformer

Double Rated Oil Well Motor
Ratings—15-35; 20-50; 25-65 H.P.

OIL WELL UNITS

Allis-Chalmers Texrope driven oil well units are rapidly taking their place as standard equipment in the petroleum industry. One company operating in West Texas has replaced 80 old rigs with Allis-Chalmers Single Reduction Units. Timken Bearing countershaft, universal slide rails and Texrope Drive, insure high salvage value, economy of operation and low maintenance.

The Allis-Chalmers Double Reduction Unit is a combination of the Texrope Drive with precision herringbone gears and runs cool with very little oil. As the power loss varies directly as the heat produced in the machine it is economy to purchase cool running equipment.

ELECTRICAL EQUIPMENT

Allis-Chalmers furnishes complete electrical equipment for field operations. Two-speed, double rated, oil well motors are built with steel frames and feet cast integral. Grease packed bearings insure economical and dependable operation and special insulation makes the windings acid and moisture proof. These motors are furnished complete with control equipment. Allis-Chalmers transformers with welded steel cases, are the first link in the chain of complete Allis-Chalmers equipment from the power line to the pitman.

TEXROPE DRIVES

Texrope Drives have found wide application in the oil industry. They are used for driving pipe line pumps, slush pumps, air compressors, Allis-Chalmers oil well units, and many other types of equipment that need a positive and flexible drive for close center operation.

OTHER PRODUCTS

In addition to producing equipment, Allis-Chalmers builds forged steel pipe line pumps, centrifugal pumps for pipe line or auxiliary service, steam, oil and gas engines, complete power plant equipment, wheel and crawler type tractors, and standard or special motors for any type of service.

Products for the Oil Industry

Single and Double Reduction Units
Texrope Drives
Motors and Control
Transformers
Centrifugal Pumps
Pipe Line Pumps

Oil Field Offices

DALLAS
HOUSTON
NEW ORLEANS
KANSAS CITY
DENVER
LOS ANGELES
SAN FRANCISCO

WESTERN SUPPLY CO., Tulsa
WESCO SUPPLY CO., Los Angeles

Export

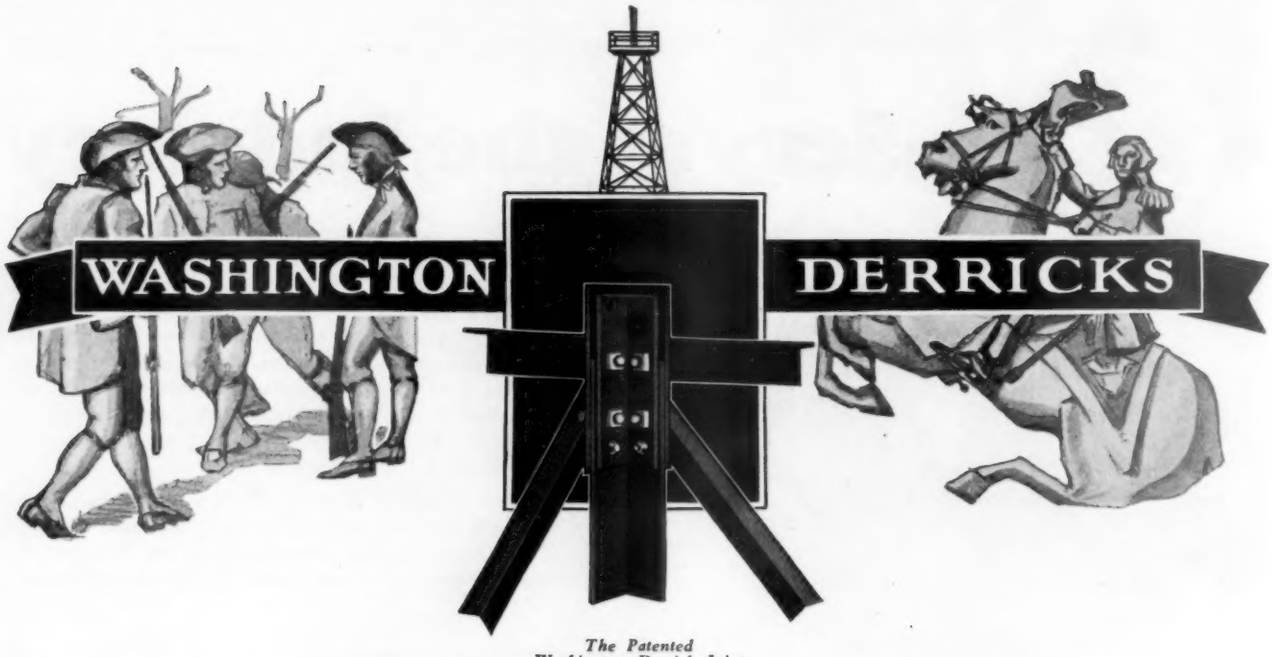
AMERICAN STEEL EXPORT COMPANY, NEW YORK

Stock at HOUSTON — TULSA — SWEETWATER — LOS ANGELES

ALLIS-CHALMERS

MILWAUKEE, WIS. U. S. A.

Say you saw it in The OIL WEEKLY



The Patented
Washington Derrick Joint

WE could select no more auspicious time than now, on the eve of the anniversary of the "Father of Our Country," to announce the adoption of this honored name for our Structural Steel Derricks. From this time on, O'Brien Derricks will be known throughout the fields as Washington Derricks.

THUS may we honor the man who first made this name famous as well as identify the product with the splendid community where they have always been built. The designation as well as the product will now stand in the Oil Country for the high character and high purpose which is nationally associated with the name WASHINGTON.

Remember Washington Derricks always stand for Washingtonian dependability.

A new Bulletin describing Washington Derricks and Drilling Rig Equipment will soon be issued. This Bulletin should be available to you and when ordering your next derrick. Just send your name and address and you will receive a copy as fast as we can get it to you when it is off the press.

The O'Brien Steel Construction Co., Inc.

Washington, Pennsylvania

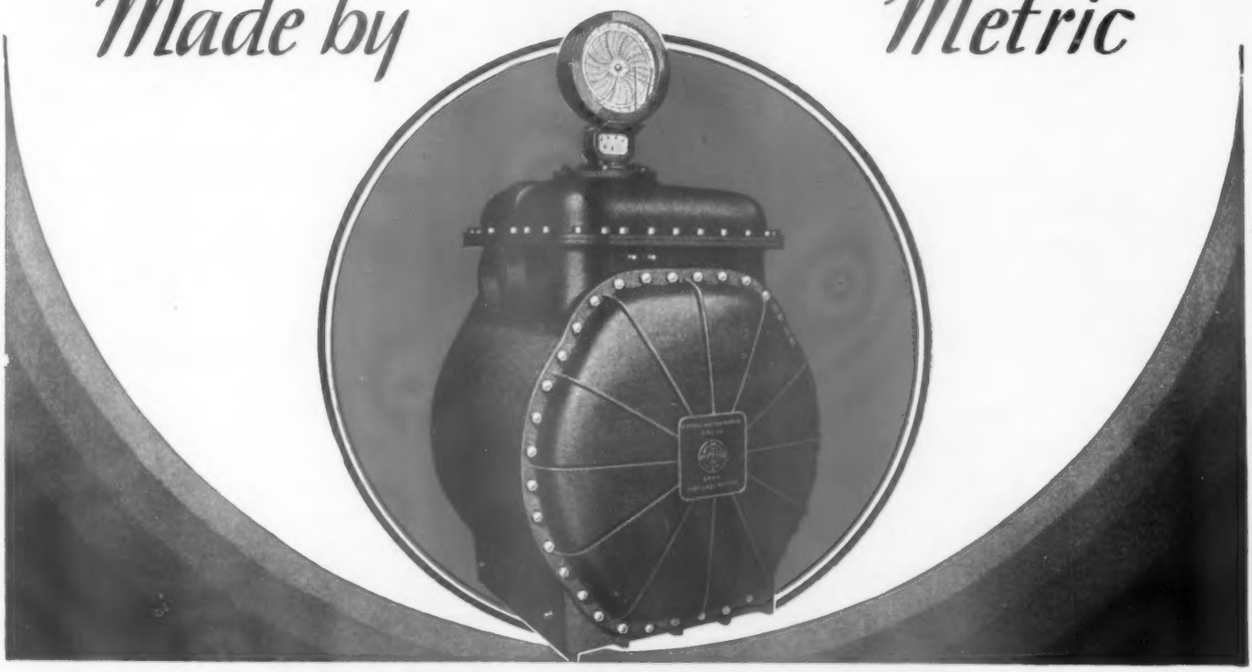
Western Representative: **Rig Equipment Co., 1524 S. St. Louis St., Tulsa, Oklahoma**

Western Distribution Points: **Tonkawa, Earlsboro, Bristow, Henrietta, Sand Springs, Wewoka, Pampa.**

IRONCASE

MASTER METERS

Made by Metric



GREATER CAPACITIES ... DECREASED WEIGHT

NO INCREASE IN REVOLUTIONS PER CU. FT. OF GAS MEASURED

PIONEER IN USE OF ROLLER BEARINGS

ALEMITE LUBRICATION SYSTEM

FRICTIONLESS, NOISELESS VALVE MOVEMENT

CAPACITIES: 2000-3000-6000 & 10,000 CU. FT. PER HOUR

SALES SERVICE

WESTCOTT & GREIS, Inc.

Dallas - - Tulsa - - Los Angeles

METRIC METAL WORKS

of the American Meter Company, Inc.

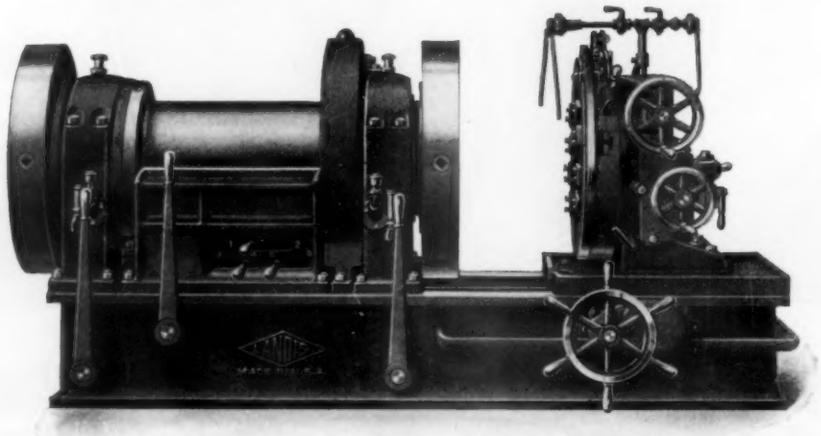
ERIE - PENNSYLVANIA - U-S-A-

Bulletin No. 300-B describes Metric Ironcase Meters 80-B, 250-B and 500-B. Mailed upon request.

Better Threads—Certainly!

The distinctive design of the Landis chaser insures a better thread—cleanly cut, well-formed and *correctly tapered* for its *entire length*.

The machine back of the Landis chaser also has a part to play in the quality of work produced—and in production costs.



The sturdy construction, the high speed range and the flexibility of the Landis Pipe Threading and Cutting Machine alone make it possible to use—to the fullest extent—the many advantages offered by the Landis chaser.

Designed to permit of quick set-up changes—built for heavy duty—and geared for high production, Landis will pay for itself through low maintenance cost.

May we send a catalogue? Ask for No. 31.

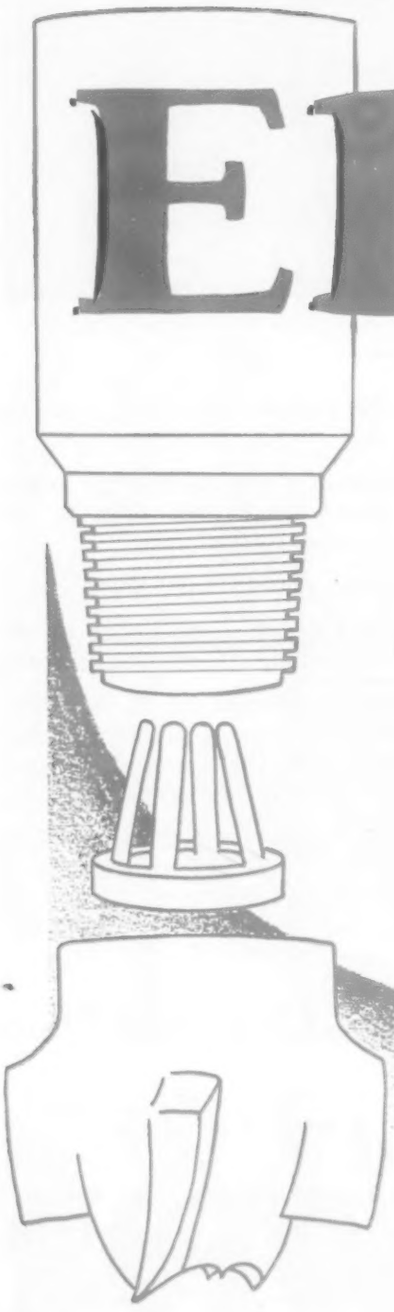
LANDIS MACHINE COMPANY, Inc.

Waynesboro, Pa., U. S. A.

Represented in the Domestic Oil Fields by: Colcord-Wright Machinery and Supply Co., St. Louis, Mo.; D. S. Mair Machinery Co., Houston, Tex.; Woodward Wight & Co., New Orleans, La.; Herberts Machinery & Supply Co., Los Angeles; Herberts Moore Machinery Co., San Francisco, Cali.; Hendrie & Bolthoff Mfg. & Supply Co., Denver, Colo.

When there are any extraordinary hazards which make successful coring operations doubtful, you always hear the call go out for

Elliott



It is only reasonable to believe that the pioneer of all oil well core drills is the best and most successful. Ever since the first crude efforts at coring, Elliott Core Drills have led in efficiency, economy and dependable results by a wide margin. For complete data and performance records write, wire or phone any branch.

ELLIOTT CORE DRILLING CO.
850 Subway Terminal Building
LOS ANGELES, CALIFORNIA

Branches:
3210 Harrisburg Blvd., Houston, Texas
15 So. Madison St., Tulsa, Okla.
618 Lake St., Shreveport, La.
104 Brien St., Beaumont, Texas
Elms Specialty Company
516 Seventh St., Wichita Falls, Texas
417 S. Washington Street
El Dorado, Arkansas

Export Office:
150 Broadway, New York

"Here, Lad—

I agree with you that there are differences in motors, but I'm not at all sure you're right when you say that Lincoln has them all stopped with that 'Linc-Weld' motor.

We ought to test them all.

Adopting a different make of motor is a subject we should approach with our eyes open."

"Linc-Weld" Superiority is due to:

1. **Larger Shafts**
2. **Larger Bearings**
3. **Better Insulation**
4. **Stronger Frame (Steel)**
5. **Greater Overload Capacity**

"No, Pop—

Let's pull the popular blindfold test—as an eye-opener.

On a test of a row of different motors under overload, you don't need your eyes to tell you which one is operating coolest.

Your hand will lead you to 'Linc-Weld'.

Then, too, there's a feelable difference in the 'Linc-Weld' permanently plastic insulation.

And there's another important 'Linc-Weld' difference that the eye doesn't quickly see, but the mind comprehends, the lowered maintenance occasioned by larger shafts and bearings.

So I'd prefer to have you consider these 'Linc-Weld' departures from common practice with open mind rather than open eyes—for with open mind you can more easily SEE the advantages."

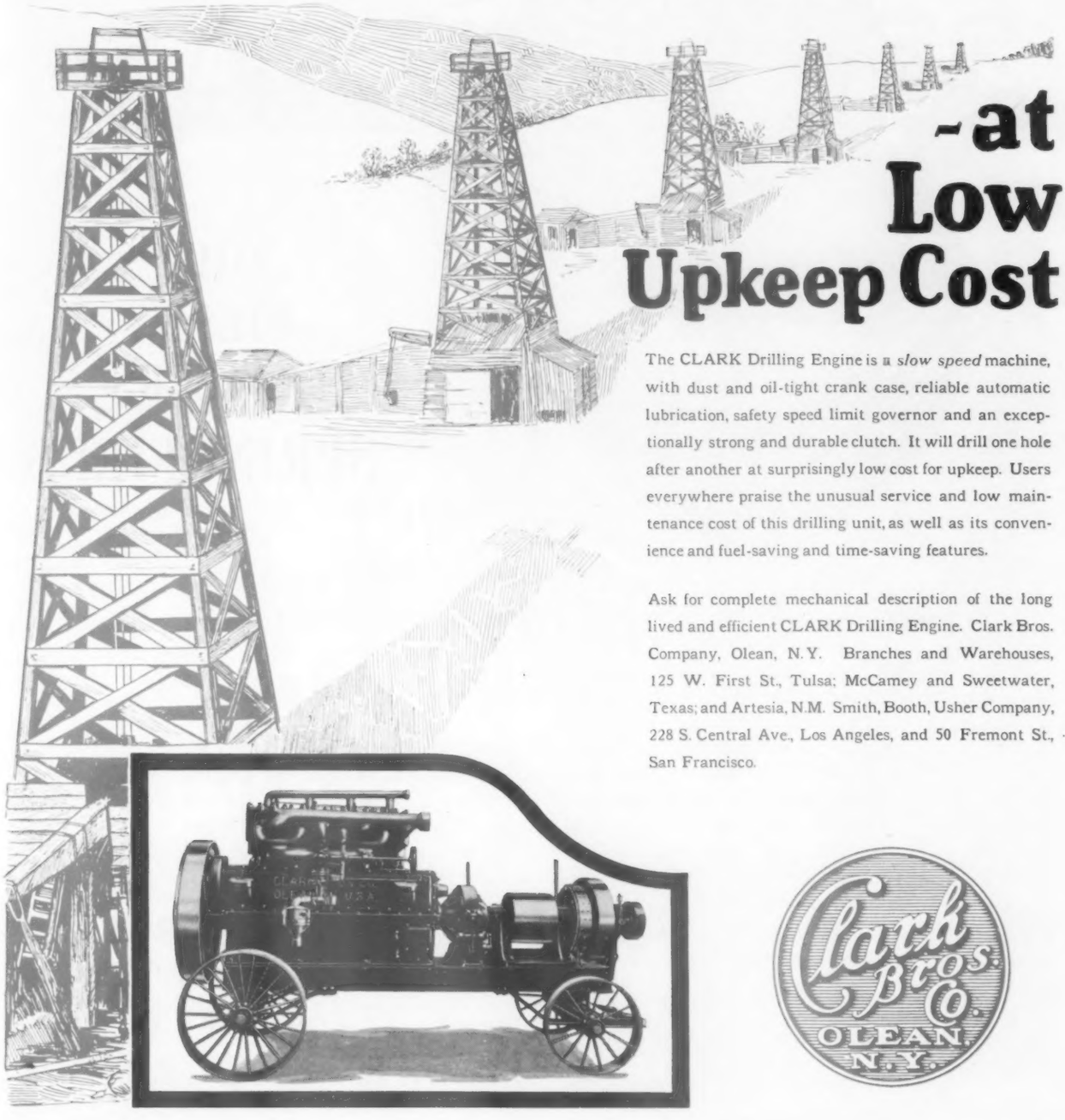
The Lincoln Electric Co., Dept. No.33-2, Cleveland, Ohio

M-35

"Linc-Weld" LINCOLN MOTOR

Say you saw it in The OIL WEEKLY

A CLARK Drilling Engine drills well after well-



-at Low Upkeep Cost

The CLARK Drilling Engine is a *slow speed* machine, with dust and oil-tight crank case, reliable automatic lubrication, safety speed limit governor and an exceptionally strong and durable clutch. It will drill one hole after another at surprisingly low cost for upkeep. Users everywhere praise the unusual service and low maintenance cost of this drilling unit, as well as its convenience and fuel-saving and time-saving features.

Ask for complete mechanical description of the long lived and efficient CLARK Drilling Engine. Clark Bros. Company, Olean, N.Y. Branches and Warehouses, 125 W. First St., Tulsa; McCamey and Sweetwater, Texas; and Artesia, N.M. Smith, Booth, Usher Company, 228 S. Central Ave., Los Angeles, and 50 Fremont St., San Francisco.

Clark Bros. Co. OLEAN, N.Y.

CLARK

Say you saw it in The OIL WEEKLY

"WITH A SPRINGFIELD BEHIND IT WILL BE THERE ON TIME"

Where load pins are not desired, bolster blocks and chains can be provided.

OIL FIELD TRAILERS

THE SPRINGFIELD

(Built by a manufacturer of Transportation for over Fifty Years)

Endorsed by one of the World's Largest Oil Companies

THE Springfield Trailer is not just "Another Trailer." It is an **Oil Field Trailer Built After Thorough Analysis of the Oil Industry's** needs—and offered to you after long service under the most severe conditions by one of the largest oil companies in the world. Combines ease of handling, ease of repair and sturdiness under all road conditions. Well balanced—which means a minimum of stresses and strains. Vibration too, has been reduced to a high degree. Provision for adjusting is made by providing means for tightening of the truss, the tie and the diagonal rods.

DESCRIPTIVE CIRCULAR ON REQUEST

Springfield Oil Field Trailers are manufactured in standard sizes of 1½, 2 and 3 ton models. The construction details in all sizes are practically the same. Why not let us tell you more about Springfield Oil Field Trailers. Write us today.

CONSULT US ON YOUR TRANSPORTATION PROBLEMS

SPRINGFIELD WAGON AND TRAILER CO.

DALLAS, TEXAS
1106 Wood St.

SPRINGFIELD, MO.

MEMPHIS, TENN.
339 So. Front St.

Distributors at Tulsa, Okla.; Amarillo, Texas; El Paso, Texas; Little Rock, Ark., and Richmond, Virginia

TITUSVILLE
TICO ENCLOSED
GAS ENGINES

3 FEATURES

of the new Tico that warrant your *immediate* investigation

For example—all castings of the Tico Gas Engine are of semi-steel; high carbon open hearth steel forgings, phosphor bronze and special alloys are used for all parts subjected to wear or corrosion. These are a few of the many factors that make the new Tico Gas Engine well worth your further investigation.

The TITUSVILLE IRON WORKS Co.
TITUSVILLE ~ PENNA.

Titusville
Acme Boilers
Single and Twin
Steam Drilling Engines
Tico Gas Engines
Band Wheel and
Geared Powers

DISTRIBUTORS

The CONTINENTAL SUPPLY COMPANY

For Export
THE CONTINENTAL WELL SUPPLY CO.
72-76 Trinity Court,
New York City, N. Y.

For California
CALIFORNIA MACHINERY SUPPLY CO.
2449-55 Hunter St.,
Los Angeles, Calif.

Titusville
Acme Rotaries
Acme Swivels
and Speed Draw Works
High Pressure Boilers
Crown Blocks
Slush Pumps

RUGGED - ENDURING

BIG LAKE OIL COMPANY

Producers of

Reagan County High Grade

CRUDE OIL

and

NATURAL GASOLINE

Executive Offices
PITTSBURGH, PENNA.

Field Offices
TEXON, TEXAS

Say you saw it in The OIL WEEKLY

Seamless

CASING
TUBING
DRILL PIPE
{Regular and Heat Treated}
LINE PIPE
STILL TUBES

Sizes 2 inch to 13⅜ inch O. D.

Welded

CASING
STANDARD PIPE
LARGE O. D. PIPE
LINE PIPE
DRIVE PIPE
DRILL PIPE

Sizes ⅛ inch to 24 inch O. D.

Since 1828

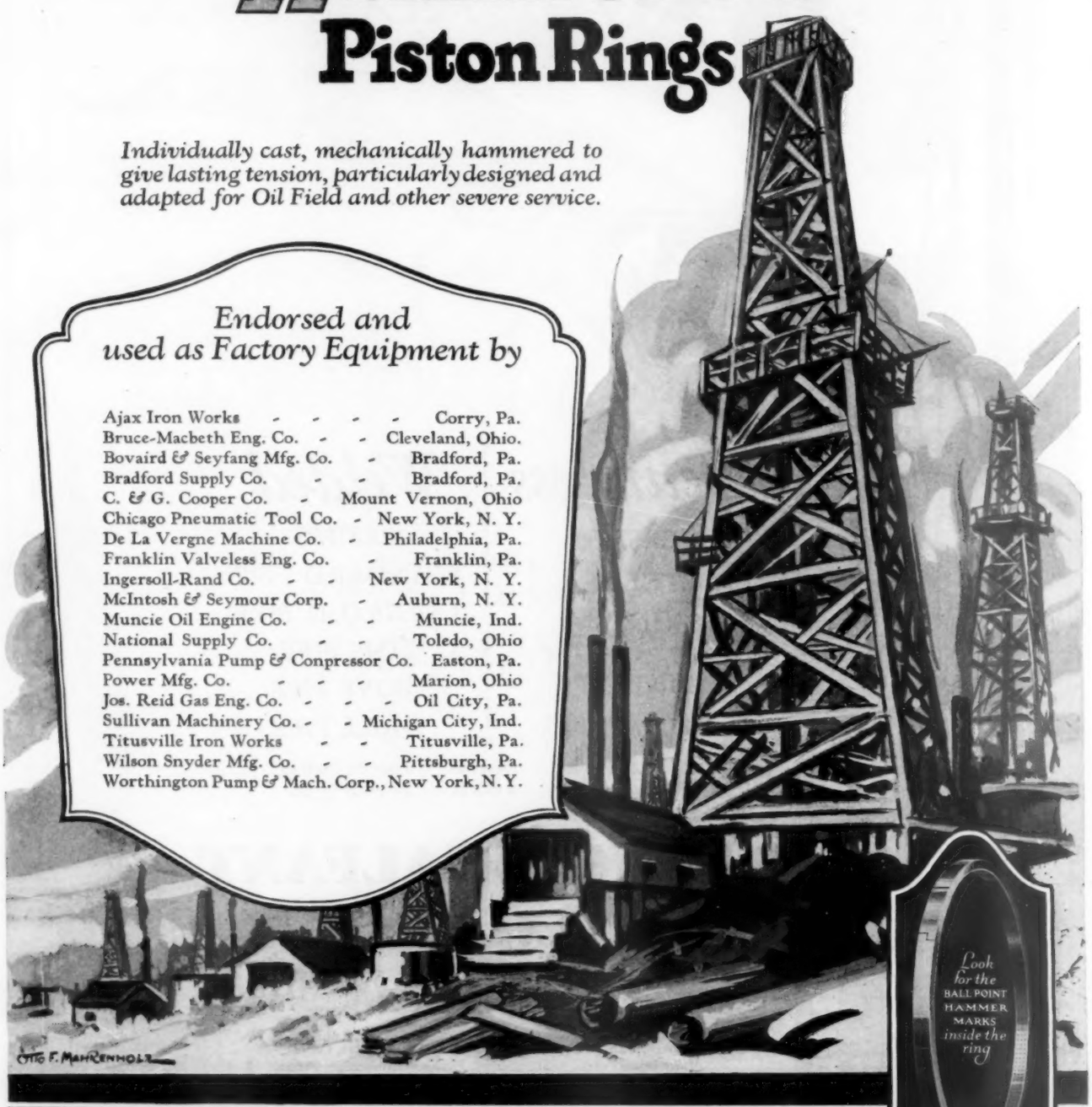
SPANG, CHALFANT & CO., INC.

GENERAL OFFICES, CLARK BLDG.
PITTSBURGH

Sales Offices: Chicago, Ill. New York, N. Y. St. Louis, Mo. Pittsburgh, Penna. Tulsa, Okla. Los Angeles, Calif.
Mills: Etna, Penna. Sharpsburg, Penna. Ambridge, Penna.

American Hammered Piston Rings

Individually cast, mechanically hammered to give lasting tension, particularly designed and adapted for Oil Field and other severe service.



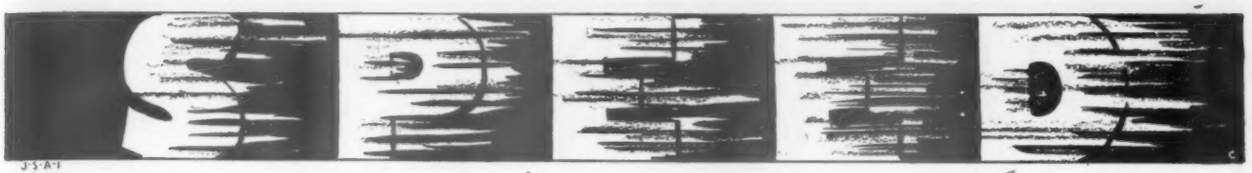
Endorsed and used as Factory Equipment by

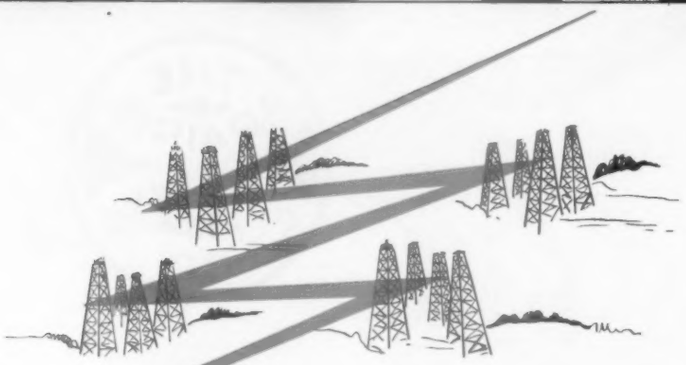
Ajax Iron Works	Corry, Pa.
Bruce-Macbeth Eng. Co.	Cleveland, Ohio.
Bovaird & Seyfang Mfg. Co.	Bradford, Pa.
Bradford Supply Co.	Bradford, Pa.
C. & G. Cooper Co.	Mount Vernon, Ohio
Chicago Pneumatic Tool Co.	New York, N. Y.
De La Vergne Machine Co.	Philadelphia, Pa.
Franklin Valveless Eng. Co.	Franklin, Pa.
Ingersoll-Rand Co.	New York, N. Y.
McIntosh & Seymour Corp.	Auburn, N. Y.
Muncie Oil Engine Co.	Muncie, Ind.
National Supply Co.	Toledo, Ohio
Pennsylvania Pump & Conpressor Co.	Easton, Pa.
Power Mfg. Co.	Marion, Ohio
Jos. Reid Gas Eng. Co.	Oil City, Pa.
Sullivan Machinery Co.	Michigan City, Ind.
Titusville Iron Works	Titusville, Pa.
Wilson Snyder Mfg. Co.	Pittsburgh, Pa.
Worthington Pump & Mach. Corp.,	New York, N. Y.

May be obtained from the above companies, or their selling agents, in standard sizes or oversizes.

Rings for any engine or compressor not listed above can be obtained direct from us.

The American Hammered Piston Ring Co. Baltimore, Md.





ABERCROMBIE

RED BALL SERVICE

LONG DISTANCE 200
FAIRFAX 5317

OUR WATCHWORD OF UTILITY

The utility of an institution, such as the J. S. Abercrombie Company, depends entirely upon the promptness to which calls are responded and the speed with which the job is completed.

In order that there be no delay in getting to "Your job" we maintain a corps of twelve men who are ready to depart on a moment's notice. These men are practical drillers with years of cutting experience, and each is capable of directing the cutting work on your well.

The Abercrombie Inside Cutting tool has recovered many lost wells by cutting and removing the original setting and preparing the well for drilling to deeper, more productive stratas; as well as salvaging much casing from abandoned and dry holes.

Call Long Distance 200, or Fairfax 5317,—a man can leave for "Your job" immediately.

J. S. ABERCROMBIE Co.
616-18 West Bldg. Houston, Texas

Say you saw it in The OIL WEEKLY

THE PRAIRIE PIPE LINE CO

Crude Petroleum Transportation

INDIANA MISSOURI
ILLINOIS KANSAS
IOWA OKLAHOMA
TEXAS

PURE OIL PIPE LINE CO.

Home Office: Independence, Kansas

Say you saw it in The OIL WEEKLY

AMONG CHAMPIONS

BALANCE

THE well balanced construction of the Moore Champion Derrick is one of the principal features which has made the Champion so successful. Its design is based on 22 years' experience, extensive tests and careful manufacture.

The seamless pipe legs will carry heavy overloading. The structural members used for bracing and the connection clamps have approximately equal strength values. Every part of the derrick approaches an equal efficiency in carrying its share of the load. This eliminates excess weight in any one part of the structure and prevents failure from subnormal strength of any member.

The Moore Champion Derrick conforms strictly to American Petroleum Institute standards.

LEE C. MOORE & COMPANY, *Inc.*, PITTSBURGH · TULSA

ESTABLISHED 1907

THE Moore Champion DERRICK

BRANCH OFFICES:
DALLAS, TEXAS
HOUSTON, TEXAS
WICHITA, KANSAS
CASPER, WYO.
PARKERSBURG, W. VA.
SHREVEPORT, LA.

NEW YORK OFFICES:
OILFIELD EQUIPMENT CO.
30 CHURCH STREET
NEW YORK, N. Y.
Stocks in all Principal Fields

Say you saw it in The OIL WEEKLY

Experience is Sometimes a Costly Teacher!

The time to learn exactly how a valve will act in service is BEFORE not AFTER you have put it on the job.

So why experiment when you can specify Darling Valves and BE SURE? There's a Darling Gate Valve for every place and purpose—a Darling Gate Valve built to stay tight, wear long, and operate with ease. And men who use Darlings say that their efficiency reduces production losses to a minimum.

Self-aligning, self-cleaning discs. No pockets or ribs to collect sand and scale. Simple and compact—will not jam nor dissemble. Easily repaired in the field—yet repairs are seldom needed.

Ask the old-timer what he thinks of Darlings—and write for construction features.

DARLING VALVE & MFG. CO.
WILLIAMSPORT, PA.

New York Chicago Oklahoma City Houston

Mid-Continent Distributors:

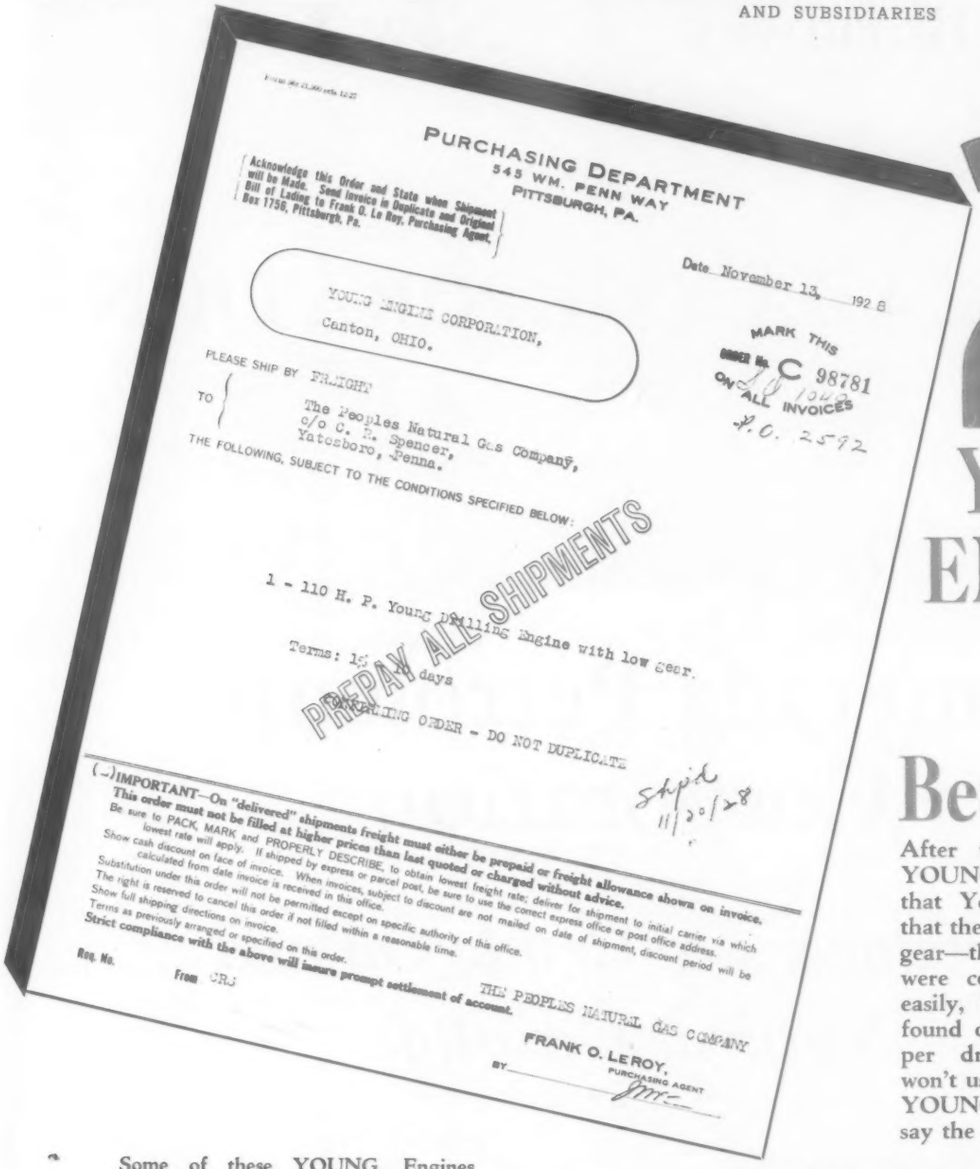
Frick-Reid Supply Corporation
Atlas Supply Company
International Supply Company
Petroleum Supply Company
Happy Belting Company

California Distributor:

Petroleum Equipment Company, Los Angeles

DARLING
GATE VALVES

WHY Did The Peoples Natural Gas Co. AND SUBSIDIARIES BUY 28 YOUNG ENGINES ?



PURCHASING DEPARTMENT
545 WM. PENN WAY
PITTSBURGH, PA.

Acknowledge this Order and State when Shipment will be Made. Send Invoice in Duplicate and Original Bill of Lading to Frank O. Le Roy, Purchasing Agent, Box 1756, Pittsburgh, Pa.

Date November 13, 1928

YOUNG ENGINE CORPORATION,
Canton, OHIO.

MARK THIS ORDER No. C 98781 ON ALL INVOICES

P.O. 2592

PLEASE SHIP BY FREIGHT
TO The Peoples Natural Gas Company,
c/o C. R. Spencer,
Yatesboro, Penna.

THE FOLLOWING, SUBJECT TO THE CONDITIONS SPECIFIED BELOW:

1 - 110 H. P. Young Drilling Engine with low gear.

Terms: 1% 10 days

PREPAY ALL SHIPMENTS

DUPLICATE ORDER - DO NOT DUPLICATE

Ship 11/20/28

(-)IMPORTANT—On "delivered" shipments freight must either be prepaid or freight allowance shown on invoice. This order must not be filled at higher prices than last quoted or charged without advice.
Be sure to PACK, MARK and PROPERLY DESCRIBE, to obtain lowest freight rate; deliver for shipment to initial carrier via which lowest rate will apply. If shipped by express or parcel post, be sure to use the correct express office or post office address.
Show cash discount on face of invoice. When invoices, subject to discount are not mailed on date of shipment, discount period will be calculated from date invoice is received in this office.
Substitution under this order will not be permitted except on specific authority of this office.
The right is reserved to cancel this order if not filled within a reasonable time.
Show full shipping directions on invoice.
Terms as previously arranged or specified on this order.
Strict compliance with the above will insure prompt settlement of account.

Req. No.
From ORJ

THE PEOPLES NATURAL GAS COMPANY
BY FRANK O. LEROY, PURCHASING AGENT

Because:

After they had started using YOUNG Engines, they found out that Young Engines were safe, that they had speed, power, a low gear—they were convenient, they were compact, could be moved easily, in one unit. They also found out that it cost them less per drilling foot. Now they won't use anything else. You try YOUNG Engines and you will say the same thing.

Some of these YOUNG Engines owned by the Peoples Natural Gas Co., have been in operation over five years—YOUNG ENGINES STAND UP.

YOUNG ENGINES

YOUNG ENGINE CORPORATION, Canton, O.

Branch Office: 2507 Commerce St., Dallas, Texas

Representatives:
Federal Supply & Machine Co., Winfield, Kansas
Peterson Machine Shop, Oil City, Pa.

Parts Stocked at
Dallas Sweetwater Winfield Oil City

Say you saw it in The OIL WEEKLY

General Offices

65 Broadway New York

AMERADA CORPORATION

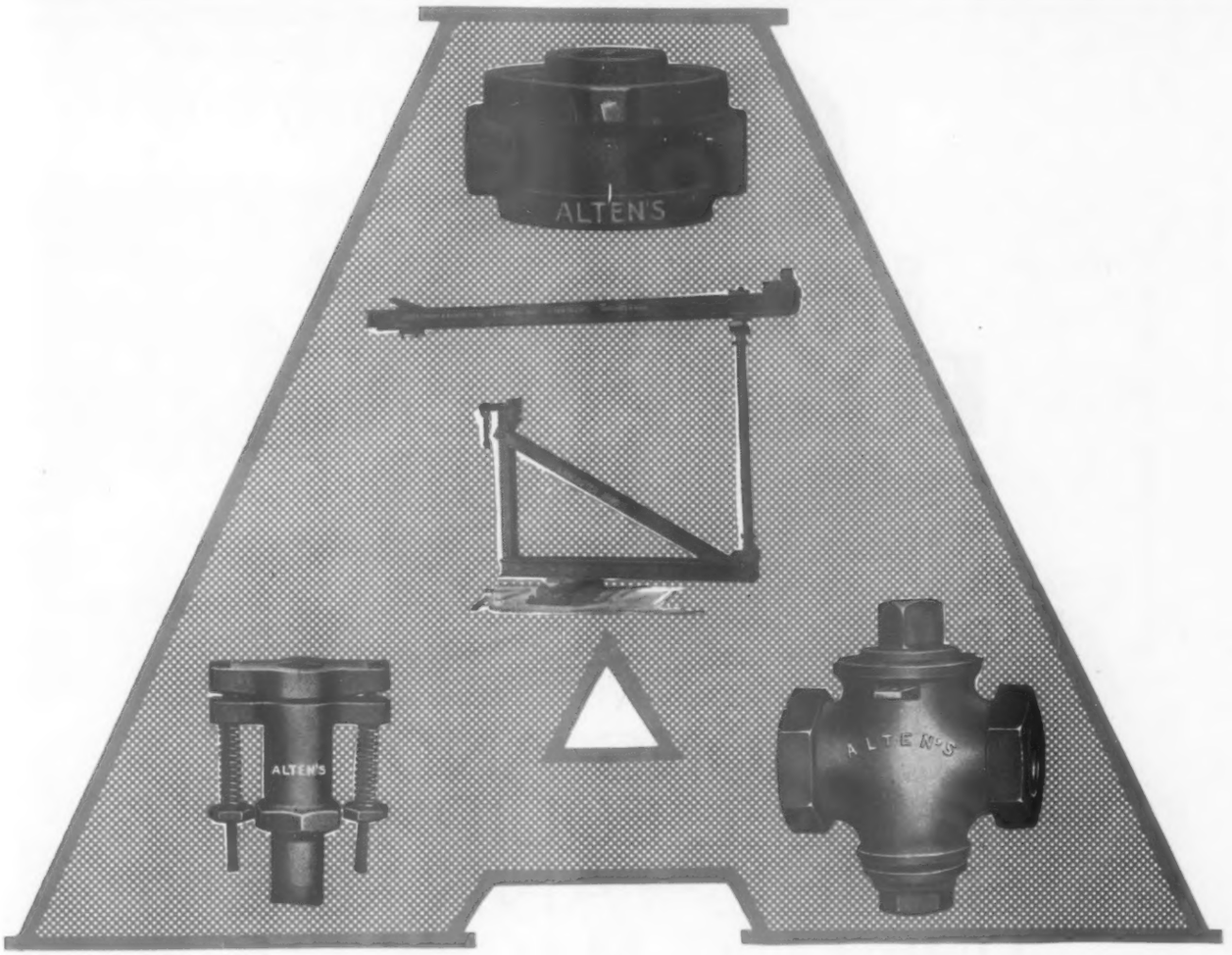
(*Operating Subsidiary*)

Amerada Petroleum Corporation

Producers of Crude Oil and Natural Gasoline

Petroleum Building

Tulsa Oklahoma



It's Made Right If It Carries The ALTEN Label

FOR forty years now, Alten has been building dependable, long-lived performance into equipment for the petroleum industry. Always Alten has sought the most modern improvements, watched the quality and superiority of these products in actual service, used only quality materials and demanded the finest workmanship. And each year more producers have used Alten products as standard equipment.

Today you will find Alten quality products in use in oil fields all over the world. You will find them carried in stock by all of the leading supply houses wherever you go. And everywhere you will find them giving satisfaction, because in every Alten product every part is built to stand up under the longest, hardest service to which it can be placed. Look for the mark—ALTEN'S—on your next purchase.

At Your Supply House or Write Us Direct

ALTEN'S
Foundry & Machine Works

Established in 1889 at LANCASTER, OHIO

OIL INDUSTRY EQUIPMENT

RIG IRONS AND
STEEL EQUIPMENT
STEEL TANKAGE
DRILLING MACHINES
REFINERY EQUIPMENT
PUMPING SPECIALITIES
SWAB BARRELS
EXHAUST PIPES AND PITS
PIPE LINE EQUIPMENT

DESCRIPTIVE CIRCULARS
ON REQUEST

UNITED IRON WORKS, INC.

GENERAL OFFICE
KANSAS CITY, MO.

SALES OFFICE
TULSA, OKLAHOMA
114 NO. ROSEDALE

"UNITED" IRON WORKS INC. FOR SERVICE

SALES OFFICE
DALLAS, TEXAS
MAGNOLIA BLDG.

ANOTHER MANUFACTURER OF OIL FIELD
MACHINERY THAT USES SKF BEARINGS

OILWELL SUPPLY CO.

Equipped with the highest priced bearing in the world
YOU MAY BUY A BEARING AS A BARGAIN BUT TRY AND GET A BARGAIN OUT OF USING IT
for
Nothing is apt to cost so much as a bearing that cost so little.
SKF
Puts the Right Bearing in the Right Place

Standing the Gaff Makes SKF Bearings Worth Just a Little More in the Oil Fields

FROM one job to another, this cementing outfit leads a rough life in the oil fields. It's expected to keep going with little trouble and probably less attention. To make the job as "foolproof" as possible, SKF Ball Bearings were chosen for the important locations.

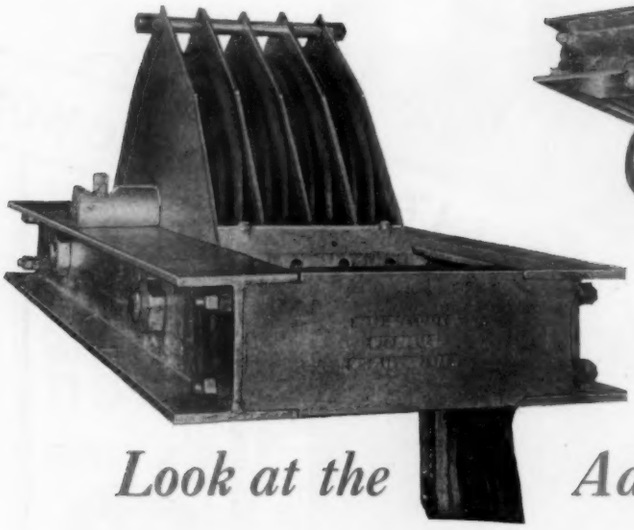
Smoothly and easily SKF Ball Bearings keep going and transfer the maximum of power to useful work. Being exposed to all sorts of harmful matter doesn't affect the bearings in the least for sealed housings effectively keep out dirt, grit and water. SKF Bearings never require any adjustments. Fresh lubricant but three or four times a year is all there is to the maintenance job.

SKF INDUSTRIES, INC., 40 East 34th Street, New York, N. Y. 2243

SKF
Ball and Roller Bearings

Say you saw it in The OIL WEEKLY

Each sheave oiled separately (alemite system). No "Hot Boxes" or loose bolts. Main shaft supported on both ends of spacer plates.



American Roller Bearings, Alemite Lubrication, Heavy Duty construction, simple and quickly adjusted to meet driller's requirements (loosen 2 bolts and slide cat line sheave on any part of crown block). Easily and quickly dis-mantled and re-assembled—only four bolts to pull and replace.

Look at the Advantages in this New

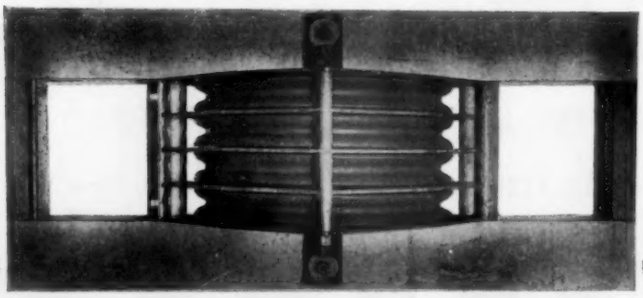
ROLLER BEARINGS

WORD CROWN BLOCK

GALVANIZED DEMOUNTABLE

Heavily galvanized to prevent rust or corrosion, fitted with special American Roller Bearings and equipped for Alemite positive pressure lubrication throughout. Simplest and most easily dismantled crown block ever made.

Approximate weight 3000 lbs. Write for pamphlet giving complete details of this Crown Block.



Looking straight down, note that the frame has a bearing on the water table all the way round, giving a solid — evenly distributed load.

WORD SPECIALTY MFG. CO.

DAY PHONE PRESTON 1927

Mail Address, P. O. Box 276

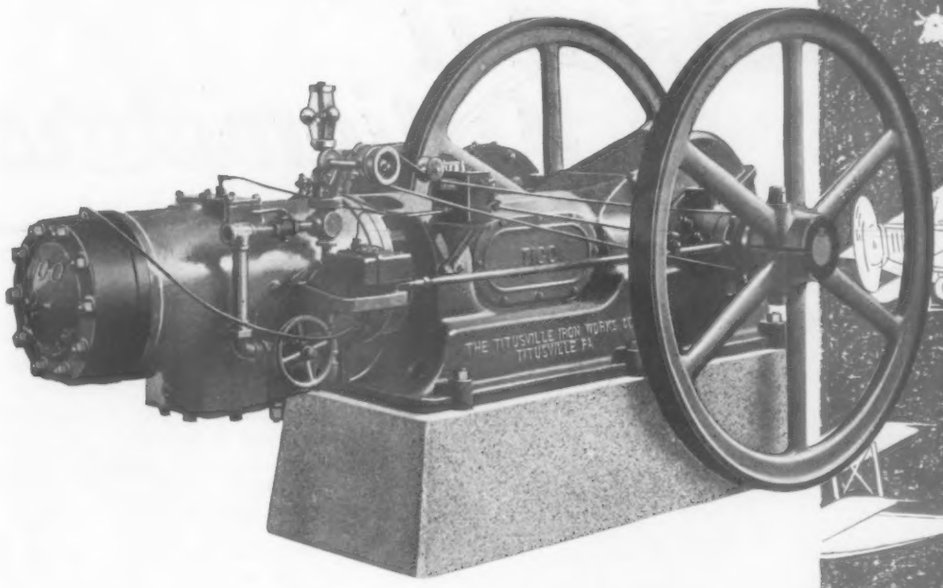
HOUSTON, TEXAS

"The Best Known WORD in the Oil Business"

NIGHT PHONE HADLEY 1973

TITUSVILLE

TICO TYPE "B" ENCLOSED GAS ENGINE



Developed to Meet Changing Demands

The requirements of swabbing, drilling, and deep well pumping have changed. New demands are being made on the engine. The above Tico Engine was developed to meet these needs, and it has met with remarkable approval wherever used in the industry. The enclosed crank case is built in as part of the engine bed, and is easily accessible through the side plates and removable cover at the main bearing; parts are interchangeable; the main frame is one-piece casting with bored main bearings and crosshead; crank shaft is counterbalanced. These and other features merit your investigation of the TICO Type "B".

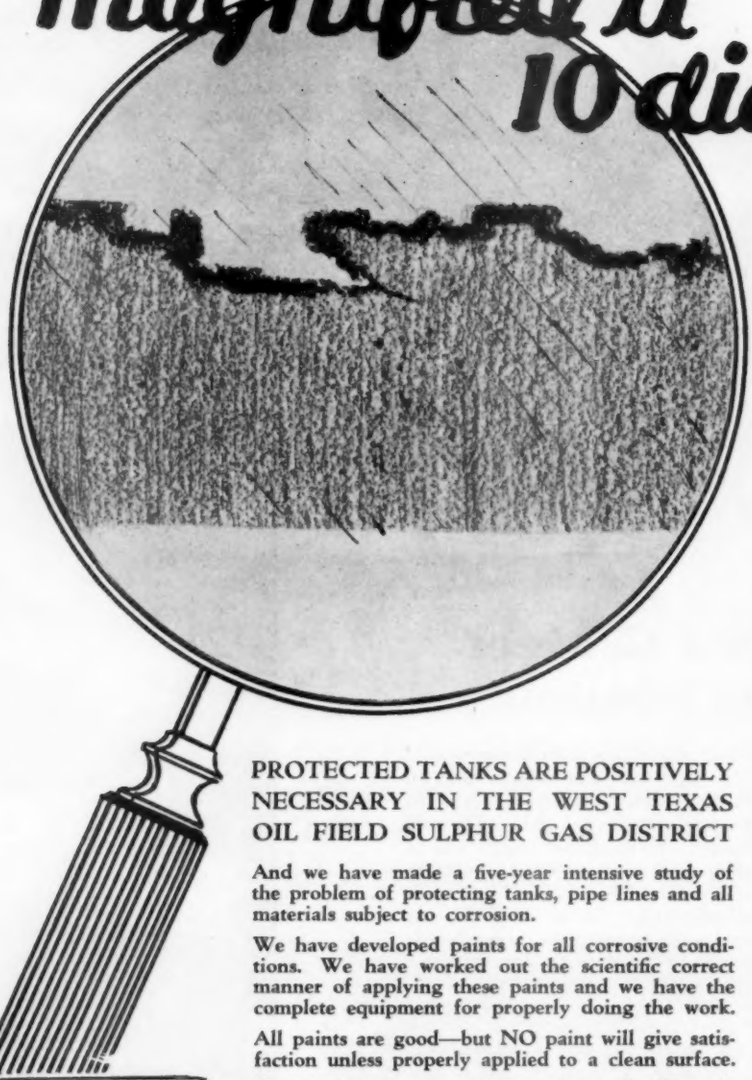
"If Continental Sells It... There Is No Better"

THE CONTINENTAL SUPPLY COMPANY
General Offices: St. Louis, Export Offices: 74 Trinity Court, New York
London Offices: 316-17 Dashwood House, Old Broad St., E. C. 2

THE CONTINENTAL SUPPLY CO., Ltd.
411 Lancaster Bldg. :: :: Calgary Alberta, Canada

CONTINENTAL

This is about the way the steel in your tank would look if you magnified it 10 diameters



A cross section view of even the steel in a new tank would reveal the surface deeply pitted—full of holes, cavities and scars.

You would appreciate the necessity of protecting that surface against further corrosion—or if the tank had been in use some time and it was too late to save it you would be doubly sure that your NEXT tank was a CORROSION RESISTING TANK.

The glass would also reveal the "ashes of metal" scab, much like the bark on a tree, which can not be burned with a blow torch and yet should be entirely removed before any sort of paint is applied—because unless each and every cavity and pit is thoroughly cleaned out and treated so that it cannot further corrode—no sort of paint will afford the protection you want, for the electrolytic action, which causes this corrosion, will go right on eating away the metal as before, completing the destruction already started.

And this is the reason we emphasize the importance of our own experts applying our CORROSION RESISTING PAINTS for we want them to render the full degree of service for which they were created, and to do this they must be applied to a surface that has every pit and cavity treated so that all electrolytic action is arrested and permanent protection can be secured.

PROTECTED TANKS ARE POSITIVELY NECESSARY IN THE WEST TEXAS OIL FIELD SULPHUR GAS DISTRICT

And we have made a five-year intensive study of the problem of protecting tanks, pipe lines and all materials subject to corrosion.

We have developed paints for all corrosive conditions. We have worked out the scientific correct manner of applying these paints and we have the complete equipment for properly doing the work.

All paints are good—but NO paint will give satisfaction unless properly applied to a clean surface.

Our engineers are at your service and will study your problems and make a report on "corrosive conditions" in any field and submit a report covering our recommendation—

A DRANE-HUMPHREY SERVICE

CORROSION RESISTING PAINTS
PORTABLE STEEL BUILDINGS
TREATED OIL FIELD TANKS

Fort Worth, Tel. 2-9713
Best, Tel. 13

BRANCHES
McCamey, Tel. 3

Pyote, Tel. 52
Roswell, N. M.

DRANE-HUMPHREY COMPANY Inc

SAN ANGELO, TEXAS TELEPHONE 5472

SULGASPRU Corrosion Resisting Paints for houses and tanks in the gas district.
UNDERCO seals and protects your pipe line.

for Every SAND PUMPING JOB

With record-breaking speed and certainty the LARKIN Improved Sand Pump brings out all of the sand and sediment from any well, anytime, anywhere.

The 20-foot LARKIN barrel is made of uniform, cold-drawn "NATIONAL" Seamless Steel Tubing—flush outside. Both the Regular and Bit Bottoms are made of an excellent grade of steel. To insure long service, the Clapper Valve is provided with specially cured leather. Behind the Latch is a strong spring which holds the Bottom tight and fast.

The LARKIN Improved Sand Pump will clean out more wells, for more years, than any sand pump made.

SOLD BY LEADING SUPPLY STORES

Send for circular and price list.

REGULAR BOTTOM

In the Larkin Regular Bottom, the legs are short—allowing the pump to rest as near the bottom of the hole as possible and still obtain the necessary suction to remove the greatest amount of sand and sediment quickly.

BIT BOTTOM

This bottom is used for drilling and breaking the sand loose. Its chisel-shaped design is unique, prevents sticking, and allows successful operation in tightly packed sands.

Made only by

LARKIN & CO.

at BUTLER, Pa.

Makers of the LARKIN Line of Supplies

The LARKIN *Improved* SAND PUMP

Say you saw it in The OIL WEEKLY

Sullivan Diamond Core Drills

Indicate Oil Land Values Quickly and Surely

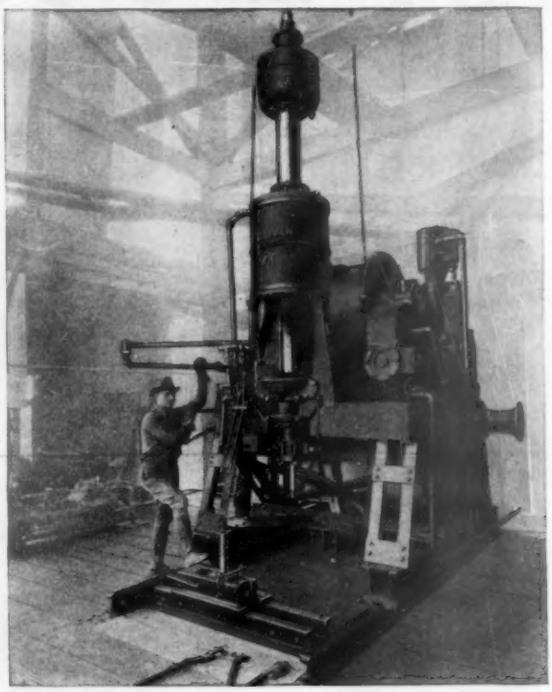
Use Diamond Drills for Structure Finding

FOR the cost of a single wildcat, you can test the structure of one or two townships—and determine where to drill your wells.

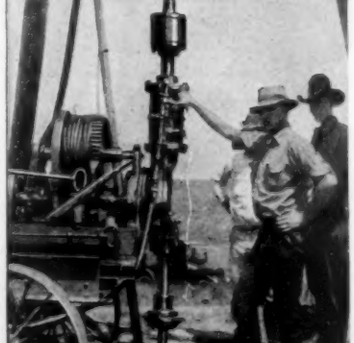
Sullivan Structure Drills are easy to set up, and they drill and move quickly. One of them, in six months, made 25,610 feet of hole and moved sixty times.

Use Diamond Drills for Deep Tests

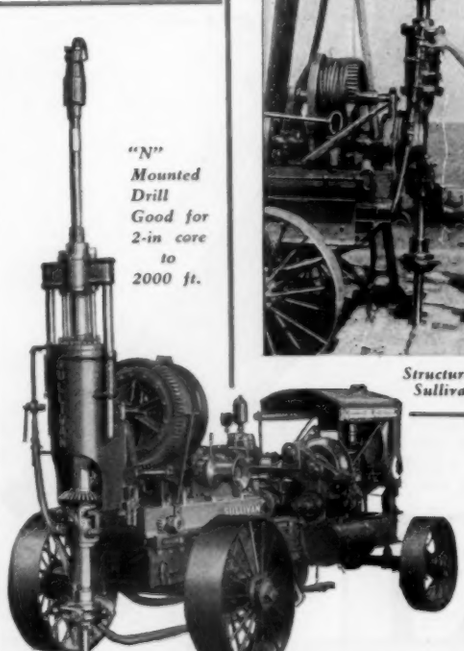
ON deep tests, Sullivan Diamond Drills make important savings in labor, equipment, and transportation—because they drill any material encountered, drill hard rock rapidly, and require fewer reductions in casing sizes than other rigs. And they will core all the way down. On "rescue work" they have finished holes given up by other drills—one at 6,007 feet. There is no danger of running by oil with a Diamond Drill—and if oil is not present, the core shows this definitely.



Sullivan "FK" Diamond Drill at work on a deep hole. The drill is shown retracted from the hole, ready for hoisting the rods.



Structure Testing with a Sullivan Structure Drill



"N" Mounted Drill Good for 2-in core to 2000 ft.

Use Diamond Drills for Production Against Pressure

DIAMOND Drills alone, can complete wells against heavy gas pressure. In the Turner Valley Field, Canada, gas pressure exceeds 3,000 lbs. per square inch, and no well was ever successfully completed there, until a Sullivan Diamond Drill was taken to the field. Now there are six Sullivan "FK" drills (the largest ever built) drilling successfully in the field.
Let us send you information on diamond drilling for oil.

USE THIS COUPON

Send me free Diamond Drill Literature.

Name .....

Address .....

I am interested in .....

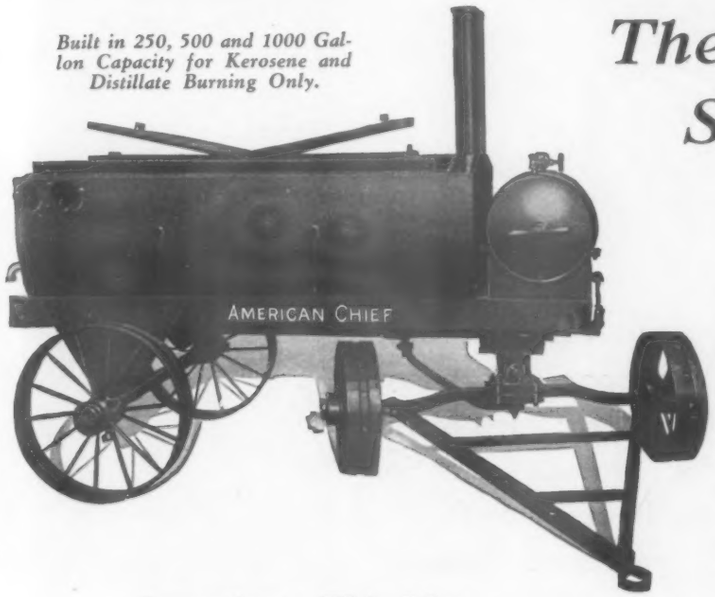
SULLIVAN MACHINERY COMPANY
419 Peoples Gas Bldg., Chicago, U. S. A.

SULLIVAN TRADE MARK

Say you saw it in The OIL WEEKLY

AMERICAN PIPE LINE EQUIPMENT

Built in 250, 500 and 1000 Gallon Capacity for Kerosene and Distillate Burning Only.



The American Chief Super-Heater

Designed Especially for Pipe-Line Work

Here is the Super-Heater for all pipe-line coating. It is dependable—sturdy—easy to move—a quick-fire, fast melter. Built low—easy to charge—equipped with double hinged rain-tight lid. Wheels roller bearing with six inch face and 24 and 30 inch diameter, dust-proof caps; right angle turning radius. Outside body made of heavy sheet steel; strong, rust-resisting, can stand hard usage; mounted on heavy 5-inch channel iron frame. Thorough return heat circulation means quick melting and anti-splash half-circle percolating inside vat insures uniformly melted material. *Now you won't have men waiting on the job.* Investigate this widely used super-heater. Write for complete facts on "The American Chief."

Investigate This List Of Superior Pipe Line Equipment

The American Steel Works is well known as headquarters for all superior pipe line equipment. In addition to the American Chief Super-Heater and the American Model C Heater, *we can deliver immediately* asphalt cutters, American pipe cleaners, pipeline sling pouring pots, priming and daubing brushes, steel wire brushes, oil burning outfits and torches. All American Steel products are guaranteed to give the very best service. Write today for our 1929 catalog, giving complete information and prices.

WRITE TODAY FOR 1929 CATALOG — COMPLETE INFORMATION AND PRICES. ASK FOR BULLETIN 112.

AMERICAN MODEL "C" HEATERS

Here is a sturdy, quick-fire, wood, coal or oil-burning heater, that meets the heaviest use with 100% efficiency. Chassis is made of 3 or 4-inch iron mounted on heavy duty springs fitted with 5/8-inch shackle bolts, and 30 inch wide groove face roller bearing wheel with sand band hubs, giving 15 inch ground clearance. Inside vat is double electric welded, fitted with anti-splash and percolating feature, rain tight lids, 1½-inch draw valves, and twenty gallon fuel oil tank. Model "C" can be furnished also without burners—for wood and coal burning. Also special Model "C" for oil burning only. Be sure to get the facts on Model "C". Low in cost, operation and maintenance.

Built in 60, 110 and 165 Gallon Capacity

AMERICAN STEEL WORKS

1211 West Twenty-Seventh St. Long Distance Phone, Valentine 3773 KANSAS CITY, MO., U. S. A.

Say you saw it in The OIL WEEKLY

The excitement, rush and feverish activity of a boom. Forty-five wells to be cemented; each owner clamoring for prompt attention .... Fourteen hours later the cementing job was done—cleanly, efficiently, scientifically.

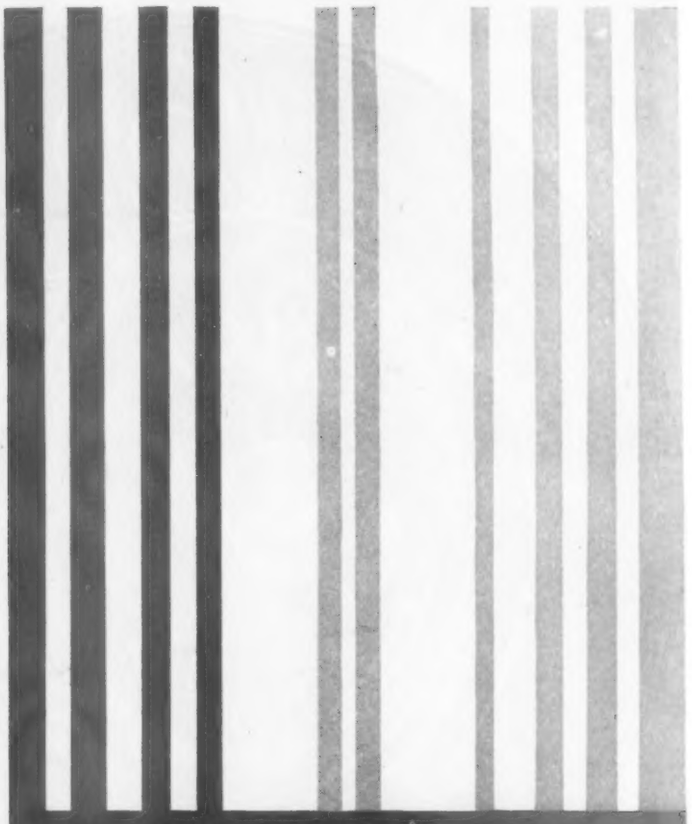
There is only one organization in existence that could have given the industry such service in an emergency. That organization is

HALLIBURTON
OIL WELL CEMENTING COMPANY
DUNCAN, OKLAHOMA

Say you saw it in The OIL WEEKLY

WRIGHT
MANUFACTURING CO.
BRIDGEPORT, CONN. U.S.A.
WRIGHT
MODEL BB
HOIST
The
WRIGHT
HIGH SPEED
Hoist is Supreme
It Stands out as the Successful Answer to every Hoist Requirement
BACKED BY 21 PLUS POINTS OF HOIST SUPERIORITY
Ask Your Jobber
WRIGHT MFG. COMPANY
BRIDGEPORT, CONN.
ACCO
AN ASSOCIATE COMPANY OF AMERICAN CHAIN COMPANY Inc.
in business for Your Safety

IT CAN'T BE TOO DEEP FOR AN "OILWELL" ROTARY



The "Oilwell" 26" Rotary

This is the famous "Oilwell" 26" make-and-break rotary. With this rotary, casing can be made up and broken out faster, better and with less labor than by any other method.

Outstanding features of this rotary are: one piece cast iron base with skids cast integral; inside table runs on hardened cone shaped rollers which roll on hardened race plates; outside table or gear ring runs on heavy bronze ring and is lined with bronze bushing; gear ring is of forged steel with cut teeth; pinion is of forged steel with cut teeth and heat treated; pinion shaft turns in Timken adjustable Roller Bearings; all bushings are split and locked in the table. Also made in 20" and 17" sizes. Non-make-and-break rotaries made in 27", 20" and 16" sizes.

915

OIL WELL SUPPLY CO.

NEW YORK—LOS ANGELES—PITTSBURGH, U.S.A.—SAN FRANCISCO—TAMPICO—LONDON

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

Say you saw it in The OIL WEEKLY

FEB 26 1929

©CIB 30195

Volume 52, No. 10 *February 22, 1929*

The OIL WEEKLY

A GULF PUBLISHING COMPANY PUBLICATION

TABLE OF CONTENTS, PAGE 69 ADVERTISERS' INDEX, LAST PAGE

Record Demand *Not* to *Absorb* Current *Crude* Output

Production control only course available if Industry is to profit from billion barrel demand

By H. J. STRUTH
Staff Economist

EVEN though the petroleum industry faces a billion barrel crude demand this year, it now appears rather doubtful whether its indicated record-breaking business can be conducted on a profitable basis. In view of present and immediate future indications it is decidedly apparent that the only ray of hope on the 1929 horizon lies in the ability of combined forces to establish an immediate, sound production quota program that will hold the national daily average below two and a half million barrels. Unless that is accomplished the producer faces the prospect of ending this year with an increase of from 50 to 75 million barrels in combined crude stocks. As the situation looks now, even if extended proration is successful in curtailing production 200,000 barrels a day, the industry is faced with the discouraging prospect of maintaining present unwieldly stocks of crude throughout the year. This is not a very encouraging picture, but it is all that the acid bath reveals on the negative.

THERE is nothing wrong with the demand for petroleum and its products. Each year the demand forges ahead to new high levels, while at the same time, each year finds the supply well in the lead in the race between supply and demand. In the past there has been a lot of talk about production control in the petroleum industry. Now the point has been reached where talk must be succeeded by positive action. That the kind of action needed is beginning to take root is evidenced by the plans recently promulgated by Oklahoma operators and also by the American Petroleum Institute, at the recent meeting held in St. Louis. Undoubtedly, the men who met to discuss production control in Oklahoma and St. Louis are serious and are ready to push to completion the task that lies before them. At any rate, upon the result of their plans depends the outlook of the entire industry during the current year. Even now, it is apparent, from a preliminary check-up, that the demands for crude will aggregate nearly a billion barrels this year—995 million barrels, to be exact. Of that demand, the American producer must supply 915 million barrels—just 13 million barrels more than was produced last year. In the accompanying table the preliminary facts upon which this demand is based are presented.

Preliminary Survey of 1929 Crude Demand

	Million Bbls.
Probable domestic gasoline demand	388
Gasoline exports	55
Total gasoline demand	443
Natural gasoline content	50
Net gasoline to be produced from crude	393
Quantity of crude required to produce gasoline demand at 39.5%	995
Probable imports of foreign crude (Net 100 imports less 20 exports)	80
Total crude to be furnished by American producer	915

COMPARED with the actual results of 1928, when the net quantity of crude required from the American producer aggregated 852 million barrels, the demand

for this year represents an increase of 63 million barrels, or only 166,000 barrels more per day than the demand last year. Incidentally, the writer recalls preparing a similar forecast which appeared in the February 17, 1928 issue of THE OIL WEEKLY, in which the estimate for 1928 was calculated at 940 million barrels. Final reports from the Bureau of Mines indicate that the actual crude demand, domestic and exports, last year was 932 million barrels. Some idea of the accuracy of this and other estimates made in the 1928 Statistical Number of THE OIL WEEKLY can be obtained from the following:

	Estimated Mill. Bbls.	Actual Mill. Bbls.
Domestic gasoline demand	331	328
Gasoline exports	45	54
Total gasoline demand	376	382
Natural gasoline required	34	35
Per cent gasoline recovery	37.0	37.4
Refinery gasoline production ...	342	342
Total crude demand	940	932
Crude imports	70	80

THE estimate for 1929 is based upon the assumption that the registration of motor vehicles in the United states will aggregate 28 million by the end of this year. Since there are now about 25,500,000 motor vehicles registered, it follows that the monthly average registration during 1929 will amount to about 26,750,000. Using this figure as a basis and assuming that the entire domestic gasoline demand will average about 610 gallons per motor vehicle registered, the writer finds that the total domestic gasoline demand will probably aggregate about 388 million barrels. While it is rather difficult to estimate probable exports of gasoline, it seems logical that they will aggregate at least 55 million barrels this year. Thus, the total gasoline demand totals 443 million barrels, or 61 million more than in 1928. All of this gasoline will not be produced from crude; expanded cracking facilities will make necessary the probable consumption of 50 million barrels of natural gasoline to be blended with cracked gasoline produced. This means that the net quantity of gasoline to be produced from crude will aggregate 393 million barrels. While it is possible to considerably increase the yield of gasoline from crude with full utilization of cracking, it is not believed that the ultimate average gasoline yield during the present year will exceed 39.5 per cent. On this basis, United States refineries will require, normally, 995 million barrels of crude. With careful control and greater use of the cracking process, even less crude may be required. Present developments in Venezuela indicate that total imports of foreign crude may aggregate 100 million barrels this year, while exports will probably amount to 20 million barrels, leaving a net gain of 80 million barrels. This final analysis results in a remainder of 915 million barrels, or the normal indicated demand for American crude.

FROM the foregoing study it is apparent that every barrel of crude produced in excess of 2,500,000 barrels a day during the present year is a decided jeopardy to the profit and loss statement, while every barrel below 2,500,000 barrels that is left in its natural reservoir is a material asset on the balance sheet and insures an entry on the credit side of the ledger. Under the conditions prescribed, output during the first month of this year was 135,000 barrels per day in excess of normal average requirements. This represents a total excess for the first month of the year of more than four million barrels. When the enormous stocks of crude on hand, which represent at least half of the total indicated requirements this year, is considered, it becomes more than ever apparent that conditions are decidedly poor. The only way these stocks can be reduced is by maintaining the output of crude below the actual demand. Suppose, for example, that it were possible to reduce production to, say 2,450,000 barrels a day. This would mean 18 million barrels less, on the year, than the actual demand, or a reduction in stocks of that amount. Even that much of a reduction in stocks would prove decidedly beneficial to the industry now.

IT all resolves itself to the fact that the industry has got to overcome some of the enthusiastic optimism that is usually let loose on the slightest provocation, and determine to exercise common sense and squarely face the facts as they really are. If the industry is ever going to realize stabilization it must collectively and individually abide by the laws of supply and demand. If the industry conducts this year's business at a profit, it will only be because of determined and successful effort on the part of all concerned to adopt reasonable proration and unfailingly abide by the schedules that are dictated by those who have the vision and common sense to outline the proper restrictive measures. While the outlook for 1929 is rather discouraging, it is believed that there is still opportunity to turn an otherwise unfavorable outlook into a most favorable one, if immediate steps are taken to prevent a continuation of excessive development.

A billion barrel crude demand this year. What is going to be done about it? The answer rests with the industry.

In this issue THE OIL WEEKLY *presents its annual statistical review of* 1928 *and previous years. Details of the various producing sections of the United States, showing number of wells completed, their initial production and gross output are given in concise tabular form, and other pertinent data is shown graphically. An index of this statistical material will be found on page* 133.

Modern Equipment *Paves Way for Deeper Drilling* In Roumanian Fields

By H. E. CASSIDY

DURING the past three years Rumania has definitely established herself as one of the prominent oil producing centers of the world. The production of crude for 1926 was 24,309,967 barrels, while in 1927 it increased to 27,456,412 barrels. Production for the first seven months of the year ending September 1, 1928, was 17,737,500 barrels, an increase of 14 per cent. over the same period of 1927. From these figures it is evident that Rumania is steadily forging ahead as far as total crude production is concerned.

One of the chief factors which has resulted in what is practically doubled production since 1925, has been the wholesale introduction of rotary rigs for drilling. With no exceptions the rotary method of drilling wells has come to dominate every field in Rumania. Today some of the smaller companies operating as independents cling to cable tools or the flush percussion system imported from the Hanoverian fields of Germany. This does not reflect on the efficiency or economy of the rotary rig, but only serves as an indication that these concerns have the old type on hand and do not feel financially able to make a change.

In some of the earlier northern fields around Buzau the Canadian Galician method, imported from Poland years ago, is still used successfully but is, of course, much slower. Since the advent of the rotary, wells have been brought in within a few months which would have previously taken a year or two to drill. Further, it has been possible to go to far greater depths that would have been heretofore considered impossible. This one factor alone has been noticeable in the rate of production increase.

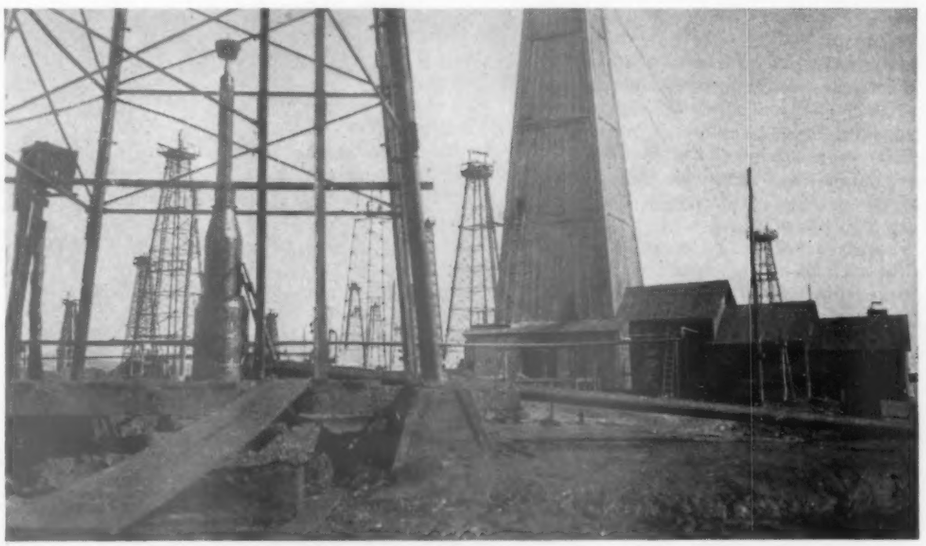
The opinions of several eminent geologists, who have asserted at times past that rich oil sands could be found in Rumania at great depths, have been satisfactorily corroborated. Every month sees different departures from past field practices. In the new Ceptura field, which is the farthest eastern development of the belt zone, steel derricks are gradually replacing the wooden ones. The three major companies operating in this field, namely the Astra, a subsidiary of the Dutch Shell; the Rumano Americana, founded by the Standard Oil Company of New Jersey, and the Staeua Rumano, with a preponderance of foreign control, have been most modern and progressive in their development program. They are drilling on both sides of an anticline structure which is an extension of the foothill pay sand.

Locations Difficult

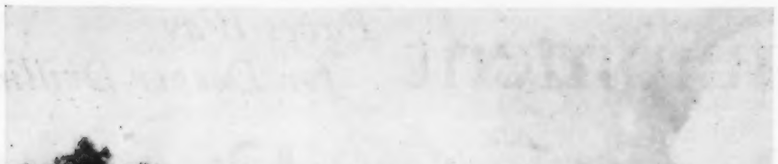
Most of this derrick installation and drilling is carried on under great difficulty. The derricks themselves are crowded into heavy brush and timber on the sides and tops of precipitous hills. Roads must first be cut through the brush and then the necessary clearing made for the derrick foundation. Obtaining a satisfactory foundation is a Herculean task in itself, inasmuch as a sizeable cut must be made in the hillside. This work is being done by hand as steam shovels are very scarce in Rumania and it is doubtful if they could be hauled into this inaccessible spot if they were available.

There are some wooden derricks going up but rarely where they are in close proximity to heavily wooded hillsides. A number of disastrous fires in this particular region have brought the operators to realize the necessity for steel equipment wherever possible. The chief objection to all steel derricks has been the very high import tariff on the assembled structure. This condition has lead to the larger operators buying the necessary steel and fabricating the derricks in their own shops. Companies like the Astra having large and well equipped machine shops find this easy of accomplishment but some of the concerns not possessing such excellent manufacturing facilities have not turned out very prepossessing jobs. In fact, in the case of a number of these it would seem as if a wooden structure would have given far better results.

Both steel and wooden derricks are the standard 122 foot type with concrete pier foundations and 9x18 feet cellars. The sills are all wood. Crown blocks are practically all old models, the drilling being done with from six to 10 lines. All steam drilling is controlled from a central boiler station



Dump head on bailing well at Moreni showing bailer descending with conical plug fitting into dump on top. Plug shuts off air so blower may draw off gas



Gas blow-out and fire at Runcu

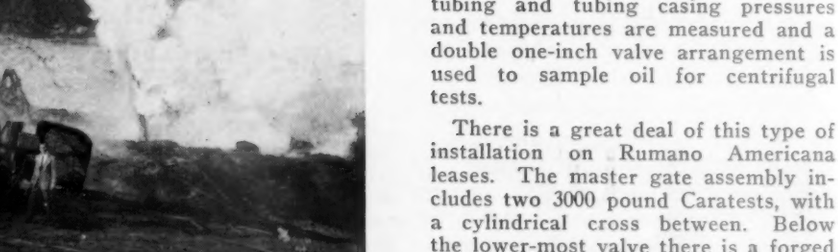
in accordance with Rumanian law. The average operating pressure for the twin type engines is 110 to 115 pounds at the rig. In those fields drilling to deep depths the calf wheel is placed in one end of the derrick, the balance of the installation the same as used in California. On the shallower wells, however, there is little resemblance to any customary installation followed either in California or the Mid-Continent.

Derricks

Derrick specifications, while not coinciding in every detail with those laid down for use in the United States, are much the same. Provision is made for crown platforms and railings and the gin-poles at the crown have two uprights and a cross beam. Most of the crowns and gin poles are housed in, as are the inside platforms. Safety belts and life lines do not seem to be as common, nor is their use as much insisted upon as in the Mid-Continent territory. Most of the calf wheel sprockets are guarded so that breaking chain cannot fly into the derrick, but there is a great deal of improvement possible in runways and on the derrick floors themselves. Metal shields are used in a majority of cases on chain driven rotaries. Metal guards are also provided in most instances for drive sprockets and chains. Construction of loading racks and walks seems to be somewhat inferior to that found in American fields, both in the case of original construction and the way they are kept in repair.

High winds are uncommon in Rumania but the rigorous climate conditions during the winter, which correspond to those in the State of Montana, fields, frequently result in derrick breakage. Spring thaws and landslides on the hills are frequently disastrous in the Ceptura field.

All of the wooden derricks in the Rumanian fields are of excellent construction, with well braced floors and concrete piers. The excessive depths to which operators are now drilling make it essential that every precaution be taken in the construction of sturdy rigs.



Above is outside type of Christmas tree installation. To right is a flowing well; center, gas and oil separator; left, is building housing Christmas tree. Flow line connects master gate assembly on casing with Christmas tree

Well No. 5 on the Rumano Americana lease is the best producer in the Ceptura field, averaging around 2000 barrels per day. The system of control employed at this well, several illustrations of which accompany this article, is novel and highly efficient. The Christmas tree and controls are located 150 feet from the derrick floor and afford numerous advantages for the operation of the well. In this particular field there is a large amount of paraffin to contend with. This change in location of the Christmas tree makes it possible to run a paraffin knife in about 20 minutes. With this outside type Christmas tree installation, which is used with success on low pressure wells, it is possible to completely enclose the controls. Further, the Christmas tree can be up and ready to handle oil by the time the master gates are in. The flow line connects the master gate assembly on the casing with the Christmas tree guages inside of the control house. Rod tubing and tubing casing pressures and temperatures are measured and a double one-inch valve arrangement is used to sample oil for centrifugal tests.

There is a great deal of this type of installation on Rumano Americana leases. The master gate assembly includes two 3000 pound Caratests, with a cylindrical cross between. Below the lower-most valve there is a forged steel tubing mandrel with a conical seat, in which the tubing is hung. This whole assembly is screwed onto an eight-inch inserted casing.

The tubing size in the Moreni field is four-inch. This is hung 10 to 12 feet below the top of the perforations in a six-inch 60-foot line from the cylindrical cross between the two master valves, which is four-inch extra heavy line pipe flow line leading to the Christmas tree, which runs from 40 to 100 feet from the derrick floor. Along the line are the lead gauge line, tubing pressures, temperature line and steam line, all insulated with cork.

The Christmas tree consists of a horizontal arm with two four-inch 300-pound Caratests on either side of the vertical drop arms, each with one four-inch 3000-pound Caratest and with special flow bean and bean change device at each end. The lower pressure equipment connects two sides of the tree and line leads to separator are insulated with cork. In the Christ-

mas tree house are located the Foxboro recording gauges for both tubing casing pressures and oil temperatures.

With this type of installation is used a special separator, designed at Taliagian machine shops, cork insulated and steel coil equipped. Gas is metered from separators through a Westcott orifice, 20-inch type.

Water Shut-off

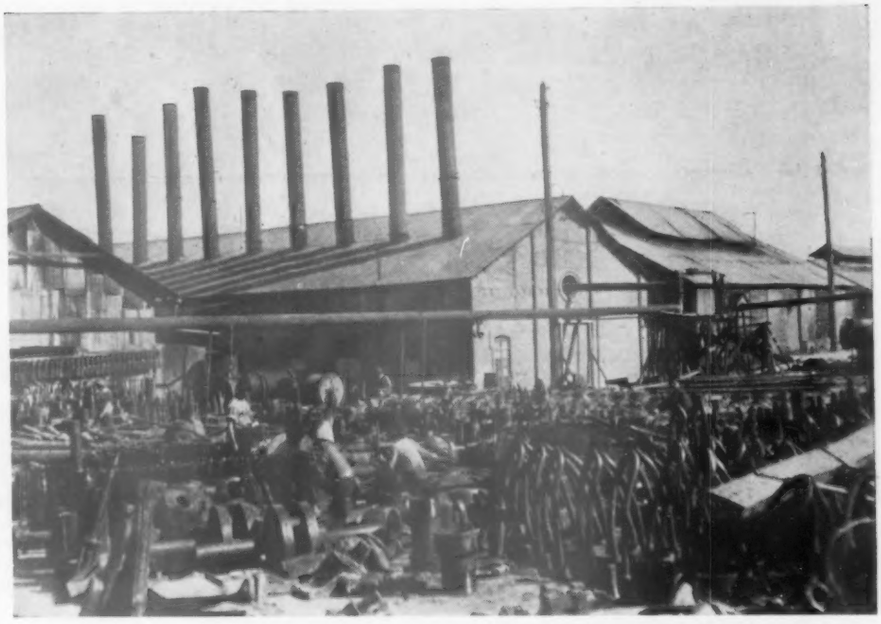
The water situation is very bad in this particular field and considerable difficulty is experienced in obtaining a satisfactory shut-off. The sand which is being tapped at the present time lies at a depth of approximately 5200 feet.

All three of the companies previously mentioned are hammering this locality hard. Romano Americana is installing a battery of compressors adjacent to their lease and will operate a three-cycle gas lift. The principal difficulty in a rapid development is the problem of transportation. Most of the hauling for the field is done with ox teams. The roads become slippery as glass after a slight rain, the composition of the earth being worse in this respect than any which we have locally. This cuts the hauling time down to roughly four months, with winter hauling impossible. In fact, the only way superintendents in charge of operations can get into the wells is on foot or horseback.

Into this four months' period are interspersed a number of Rumanian holidays, upon which all activities for the Rumanian laborers cease. Prior to the War there were 86 legal holidays in Rumania. Not counting Sundays, this meant that every third day was a holiday. Since the War this has been reduced to 24, but this gives 76 holidays, even now.

Revamped Machinery

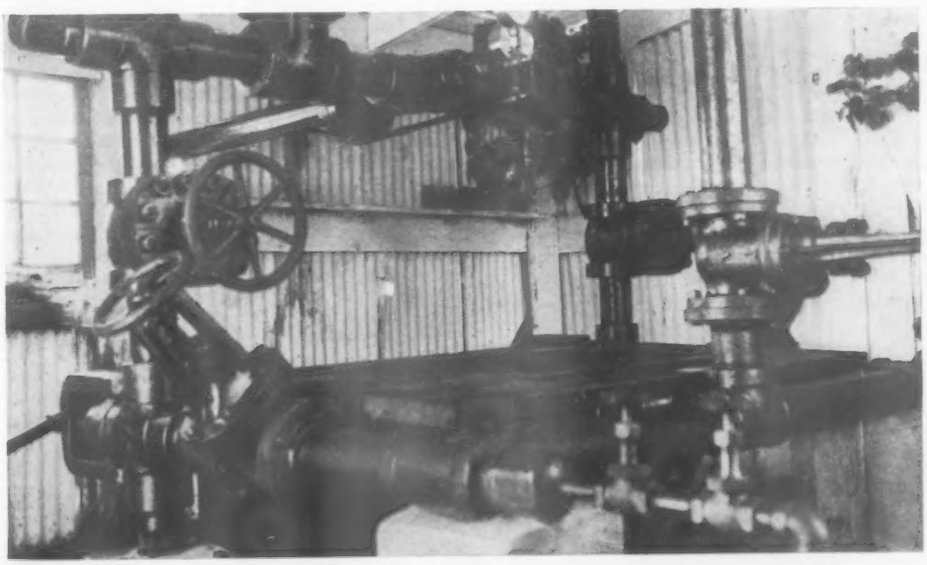
A great deal of the drilling equipment used at the present time is old stuff, rebuilt and, in some cases, redesigned in company shops. This is not done with the idea of cheating equipment supply houses out of any legitimate business or from a sense of false economy. Most officials in charge of the major concerns are perfectly free in admitting that in many instances their redesigned and rebuilt rigs are inferior to new ones and cost a great deal more to manufacture and operate, as compared with costs of similar outfits at home. Their reasons are plain and easy to understand. Prohibitive duties on heavy manufactured articles of equipment, ridiculous difficulties in transportation and long waits for delivery are the conditions responsible for the use of this worked over material. In addition, labor, when compared with our wage scale, is unbelievably cheap and of course it is the American scale under which new equipment is produced. Just so long as the present condition of affairs continues, just so long may we expect to find revamped machinery in operation. The recent overthrow of the Liberal Party and the taking over of governmental control by the peasant labor group will, it is hoped, result in a change in tax and tariff regulations.



A great deal of rebuilt American equipment in stock pile at Moreni

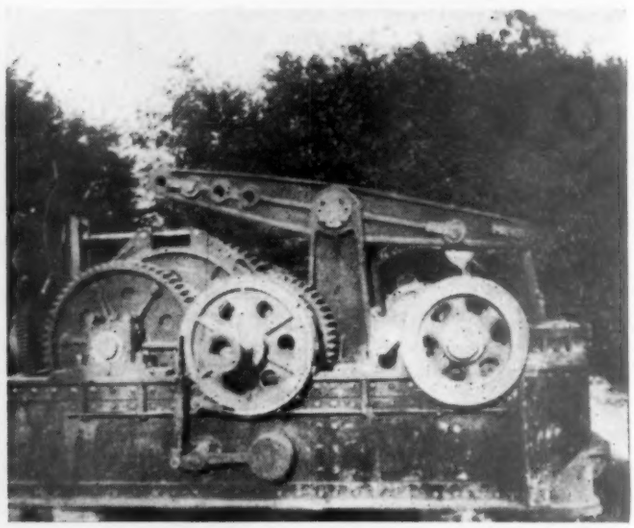
A typical rig-up, regardless of the derrick used, is generally along the following lines. The engines used for drilling are of the 11x11 twin type with old style wooden post extra heavy draw works. Most of the old type draw works in operation are made of cast iron, but have delivered excellent service. The draw works are two speed with babbitted bearings for both the line shaft and drum shaft assemblies. The newer types are utilizing all of the best features of our newest draw works, such as the non-burning drum assembly, roller bearings on the drum shaft and a line shaft clutch shifting mechanisms. The line shafts vary from five-inch to eight-inch. One supply house is now furnishing this extra heavy size to take care of the deep drilling depths. While a few all-steel rotary tables are seen, the majority are constructed with wooden skids and braces. In addition, only the very newest tables are coming in roller bearing equipped throughout.

The pumps for handling mud are of the 12x6¾x14 variety. In the case of excessively high gas pressures, such as those encountered in the Boldesti field,



Outside type Christmas tree on low pressure wells. Gauges record tubing and tubing-casing pressures. Temperatures are also measured

Typical field camp located in the Ceptura district



Here is an old flush percussion rig from the Hanoverian fields in Germany that has been discarded in favor of the American Rotary

a 10x4½x10 high pressure pump, tested to 2000 pounds on the head, is added to the hook-up. Tremendous gas pressures are one of the worst difficulties with which the driller has to contend. In the Boldesti field, which is on a flat along the river bottom running into the foot hills directly north of Ploesti, gas pressure is unbelievably high. One well in Boldesti, brought in during September, showed at one time 140 atmospheres on the dial. Encountering the first gas sand on this particular well, it was necessary to compound the two standard mud pumps into a high pressure pump in order to handle circulation. On this well the blowout came when the driller was pulling out to change cutter heads on a core barrel. Caught 70 feet off bottom, he ran down 20 feet and then had to stay 50 feet from bottom during the two days necessary to kill the gas. Tons of barite and mud were pumped into the hole and circulation was maintained with the greatest of difficulty. The pressure split the first blowout preventer, cracking the connecting nipple, but the second Reeney preventer held, although wedged.

As might be imagined, blowout preventers of various makes are popular in this field. When in the gas sand, every precaution has to be taken to prevent serious catastrophes, the fire hazard is such that all fires are extinguished in neighboring peasant villages and guards are posted to see that they remain out.

Working Rumanian crews under these conditions requires a real leader of men. They will stay as long as the boss stays and do what they are told to do, but Heaven help the well that runs into high pressure gas sand with the drilling foreman absent. At times like this the Rumanian roughnecks would make the best records of our nationally famous sprinters look sick.

The drilling crews operate three tours of eight hours each, while the drillers are on tour two shifts of 12 hours each. A complete well crew consists of one driller, one "ejector" who is in reality the assistant driller, one derrick man and three floor men, who very appropriately are called "croneknecks." It is perhaps possible that this may be Rumanian for roughneck. Due to the mentality and general makeup of the people, the majority oil workers have the title of "assistant this" or "assistant that," which serves to please their vanity immensely and means very ilttle. If a Rumanian oil field worker is appointed "Chief Pusher of the Tongs" he is highly impressed with the honor and works twice as hard as if he merely did the same work without being especially designated with a title and a high badge of office.

The traveling blocks seem to be very much up-to-date, standard sizes and standard weights predominate with roller bearing sheaves and adequate guards to prevent cutting the wire line. All drill pipe is of American manufacture while the casing used is furnished largely by German concerns with some English supply. Probably the plain fishtail bit is used most commonly and usually has a facing of some hard metal, although the Germans were the first to bring out a hard metal for use in topping bits and machine tools. The majority of the operators prefer American manufactured hard metals due to improvements in methods of application and quoted prices. These prices, by the way, take into consideration the additional shipping charges from the United States to Rumania as contrasted with those from Germany.

Coring

There are few, if any, rock bits used as little hard formation has been encountered to date. The use of core barrels is becoming more and more prevalent, in fact the majority of the major operators have made it obligatory for their drillers and drilling contractors to take cores either the entire distance or begin after 500 feet have been drilled, and core to the bottom of the hole. The value of coring is very apparent in Rumania, where a couple of feet one way or the other may open up a gas sand of tremendous pressure. It has also proven of value in determining various water levels, enabling effective shutoffs to be made without difficulty.

American manufactured core barrels predominate in Rumania. The Alco, Elliott and the H. C. Smith being probably the best known core barrels. There are a number of cheap imitations on the market, offered by English and German concerns, but have little merit. These imitations, however, closely resembling as they do the standard makes, have injured practice in some districts, a number of small operators have purchased core barrels from continental concerns which from their shape and working characteristics they assume to be of American manufacture, or at least manufactured under American patents and formula. This has not been the case, however, and these core barrels have given very poor service indeed. Inferior metal in the cutting heads, poor fits in the barrel itself and inaccurate design have prevented obtaining of perfect cores, "souring" a great many of the companies on coring for a long time.

Like Poland, Rumania has the most varied and picturesque collection of fishing tools that one might imagine. The wall hook seems to be the most popular of the tools used, however, as most "fish" lean against the side of the hole.

The majority of deep wells are completed in from six to nine months actual drilling time. Steam operated power plant machinery is most popular

(Cont'd on Page 209)

California Production Rises
In Direct Relation to
Greater Depths Penetrated

By BRAD MILLS
Staff Representative

THE influence of deeper drilling on production of oil in California constitutes one of the most interesting chapters in the development of petroleum in the State and promises to place a new valuation on many of the shallower fields which are largely depleted in the upper zones.

A casual glance back over the statistics of the past 25 years shows the center of production jumping around from one place to another, and all the while coming from greater depths. A statement at the beginning of the century to the effect that some day oil would be produced from below 5000 feet could have brought only ridicule.

The rapid-fire developments of the last five years have caused old theories and old methods to be discarded. Without the advent of extremely deep drilling, such fields as Kettleman Hills and Ventura would not be possible. The deep zones in the Long Beach and Santa Fe Springs fields would now lie dormant, had not the constant desire to explore greater depths lingered on and on. California would now be producing around 300,000 barrels daily instead of 775,000 barrels if the quest for greater depths and more oil had not been so intense.

The shifting of the center of production from Northern to Southern fields was caused by the development of zones formerly out of reach of the old cable methods. Intensive drilling had been done only in districts which produced from sands lying within reach of methods of the day. Operators never lost sight of the possibility of production a little deeper than they were able to obtain at any given time, but they were content to develop fields within reach of the drill and spend less energy on scattering wildcats, which have been incidentally, more responsible for deep production than deep tests in proven areas, especially during the earlier days. There was evidence of structures in the Los Angeles Basin, but as will be shown later, their development was impossible until the art of drilling reached a more efficient stage.

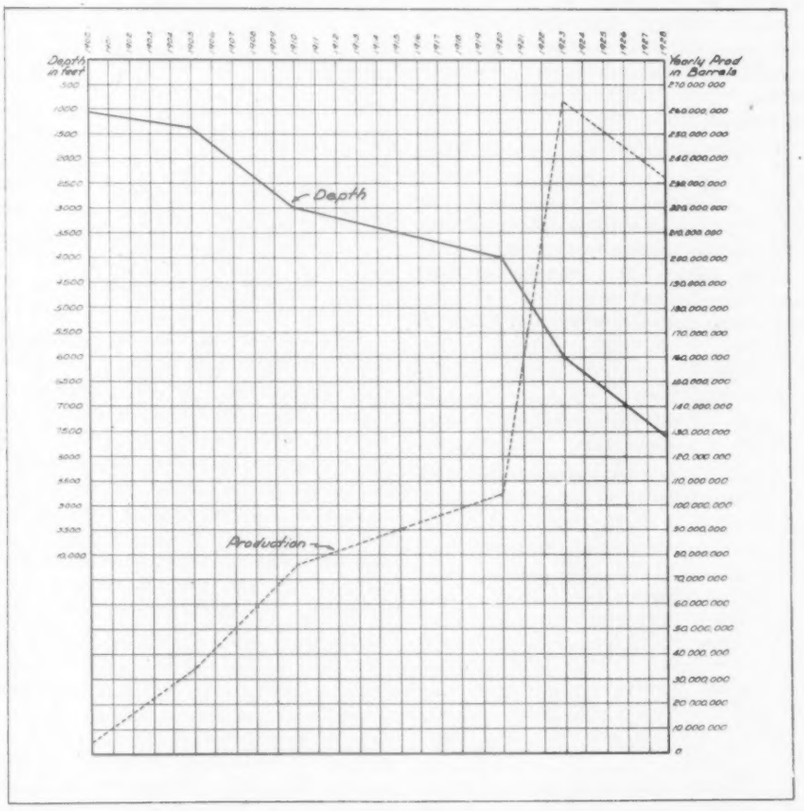
A survey of nearly every important deep field in the state shows that many shallow wells were drilled long before the fields were discovered. The reputation of many competent geologists received severe jolts as the result of these failures, and more than one lost positions from the failure of wells which stopped, in many cases, just a few hundred feet short of productive zones. Long Beach, Santa Fe Springs, Seal Beach and many other fields were discovered long after prospective holes had been abandoned. Operators had learned to think in terms of shallow production and many wells were abandoned short of the maximum depth to which they might have been drilled.

The story of the evolution of drilling equipment to meet changing conditions is an entirely different phase of the transition, but in justice to the pioneers who developed heavier and more efficient equipment, it is well to say that they played an important role in making 8000-foot wells possible.

About 1900, the Kern River field started on its way to head the list of California fields. The depths of wells ranged from a few feet to 1100 feet. The latter depth was regarded as a distinct accomplishment, although deeper holes had been drilled in the state. The depth standard automatically became 1100 feet and several hundred wells were completed around this depth. This cycle became known as the Kern River period.

At the same time, the Los Angeles City fields were producing several thousand barrels daily from shallow depths. Operators in this field looked with awe upon such depths as had been reached in Northern fields and immediately began to drill deeper.

By 1905, the west side of the Coal-



Graph showing how production has gone upward in California as well depths have gone down

inga field came in for a big play. Wells were drilled to the unusual depth of 1400 feet and good production obtained. Coalinga has been responsible for the development of more equipment than any other field in the state and it was only after a sharp struggle with cavey sand that wells were completed around 1400 feet. The influence of this deep drilling on production was apparent, and within a few years the field was yielding more than 10 million barrels yearly.

Shallow fields near Fullerton began to make their mark about this time, and, following closely the achievements of the Northern fields, operators completed wells at more than ordinary depths.

The Santa Maria and Lompoc district also yielded to deeper drilling and soon became a factor in the state's production.

3000 Feet in 1910

Although discovered at an earlier date, the famous Midway-Sunset district attracted the lion's share of attention about 1910, when deeper drilling disclosed the best oil sand that had ever been tapped in California. The influence of deeper drilling in the Coalinga field had spread to this area and production jumped from a little more than two million barrels in 1909 to more than 20 million barrels in 1910. By using all the ingenuity at their command, operators completed wells at 3000 feet. The shallow shales had been productive, but it remained for deeper drilling to completely upset the market for several years.

Encouraged by the phenomenal 3000-foot producers, operating companies studied conditions in both the Midway-Sunset and Coalinga fields and succeeded in completing large wells at 3500 feet by 1915. This deeper drilling more than doubled production in Coalinga in less than five years and brought production to 50 million barrels in the Midway-Sunset district alone. Their wisdom had been their downfall and the price of oil went crashing downward at a terrific rate.

Probably less was accomplished between 1915 and 1920 than during any five-year period since 1900. Singularly enough, state production failed to increase during the period, proving that the relation between deeper drilling and production is extremely close and that the influence of the former on the latter is very marked. The World War diverted the attention of the oil man during the period, partially accounting for the failure of oil wells to creep much deeper.

The Ventura field was one exception to the rule, however, accounting for a few small wells of 4000 feet. These wells produced a heavy oil and were completed with the greatest effort. It required all the ingenuity that the best brains possessed to complete these wells. The effect of these super-deep wells on future production will be noted in the achievements of later years.

The 1920-25 period was filled with important developments, which were possible only because California operators had learned to complete wells up to 5000 feet. Long Beach, Huntington Beach and Santa Fe Springs were chiefly developed during this period, and while they produced some oil at comparatively shallow depth, it was the deeper sands that made such a large yield possible.

5000 Feet Common in 1925

Long Beach proved the most interesting of the trio of Los Angeles Basin fields, a few wells having been completed just short of 6000 feet. Depths greater than 5000 feet were common, due to the solving of several problems which had hindered the completion of wells at such levels in other fields. Keeping pace with the increased depth, production during 1923 jumped to almost 69 million barrels.

Santa Fe Springs responded to deeper drilling and produced the startling total of nearly 80 million barrels of oil in 1923. If the older methods had been employed, production would have been less than half as much.

Huntington Beach also came in for its part of deeper development and produced more than 34 million barrels of oil during 1923.

The uncanny manner in which the three fields mentioned above produced their greatest flood of oil during tre same year may be accounted for by the influence of deeper drilling on production. The manner in which these two factors have paralleled one another during the past 30 years fills a very interesting chapter.

Between 1925 and the beginning of 1929, the same restless spirit prevailed, and, disregarding sensible procedure, deeper drilling was pursued with all the vigor of former days. Production had been increased between 1920 and 1925 by increasing the average depth of completion; so why not try for still greater sands? Equipment was stronger and more dependable; water shutoff had become a science, and there was still room for a few more barrels in storage.

The story of the re-development of the Long Beach and Santa Fe Springs fields is too fresh to tell again; but the influence of deeper drilling on production was felt in exactly the same manner and about to the same extent as in earlier days. Wells were completed in the Long Beach field below 7500 feet and fully 200 were carried to 6500 feet or deeper. Wells in the Santa Fe Springs field were less than 6000 feet, but they were completed at depths greater than was possible during the first drilling campaign.

Only the knowledge that had come from the completion of very deep wells made it possible to discover the Seal Beach field. Previously, tests had been drilled almost to the top of the first oil zone, but the risk involved in drilling deeper did not seem to justify the chance of production. One large oil company practically owned the entire field before it was discovered, but quitclaimed its leases after getting only 50 feet of sand in a wildcat test.

For a time, the Ventura field held the record for deep completions. The development of this district started on a big scale in 1925. Several years before, shallow wells had been completed at 4000 feet. The lower sands were not found because nobody knew how to drill so deep in this treacherous field. It is now not uncommon to complete wells below 7400 feet in the field. The area has been a virtual testing ground and many obstacles have been overcome.

Rotary Drilling

Backtracking over the long trail to 1900, the change from cable to rotary tools stands out as one of the chief contributing causes toward deeper drilling, and consequently greater production. Prior to 1910, nearly all drilling was accomplished with cable tools. After the change to rotary tools, depth increased rapidly. Without this type of equipment, California would not be producing half as much oil as she really is.

The Kettleman Hills field was made possible in 1928 by the advancement of drilling methods. This remarkable light oil producer would not have been found had not the advancement in other fields been so rapid and sure. Fully 20 wells had been drilled on the structure without definite results. New methods ushered in the field, which may become the most important in the state. The discovery well was completed below 7000 feet.

After reviewing the past 30 years, the relation between deeper drilling and greater production stands out boldly. The question seems to be: will deeper drilling in the future bring a still greater flood of crude? Only the future will answer this question. It is safe to say, however, that if California was called on for more oil, the state could produce upward of 1,000,000 barrels daily from the fields now discovered and with the equipment now in use. Such a feat would require the development of several new fields and the release of much shutin oil, but figure could be reached within six months, according to experts.

North and Central West Texas Areas Have Quiet Year

Number of new wells and gross output fall below previous year; many new areas opened but little drilling followed

By H. H. KING
Staff Representative

FORT WORTH, Texas.—High gravity oil areas in North and Central West Texas registered a decline in completions and production during 1928 as compared to the activity carried on in the districts during the previous year. Wildcat activities during 1928 resulted in the discovery of more than 50 new oil or gas producing areas, but only a few of these strikes caused active drilling campaigns within the year, while none offer indications of becoming a disturbing influence in the general crude market situation.

The North Texas section of the state's high gravity oil producing district retained its lead on activity and production during 1928 over the Central West portion of the state, centering around Breckenridge and Brownwood. Crude prices and the generally depressed condition of the crude market interferred with activity somewhat, especially was the financial support of major and substantial independent companies lacking in the wildcat drilling. Usually these concerns are heavy purchasers of "protection" leases around wildcats, but during 1928 the general policy was to discourage unnecessary exploration work, although exceptions to the rule were made from time to time to get in on "plays" of special merit, or with favorable geological indications.

Coleman County scored its banner year on completions and new production during 1928, and also was the only county in the Central West Texas district to surpass the activity of 1927. The discovery of shallow pools in the eastern part of the county by E. J. Cunningham et al's G. W. Jennings 1-B and W. T. Daniels et al's Moody 1 were important factors in the gain being possible, while semi-wildcats uncovered on the Overall Ranch also led to the drilling of a number of high gravity producers.

Failure of wildcatters to uncover new oil producing areas of any appreciable size, and the drilling up of the choice locations in old pools and fields gave Brown County a setback on production and completions during 1928. Two outstanding strikes made during the past year were credited to the Clark-Buffalo Oil Company's test on Brown County Fee and by Cranfill & Reynolds, Inc.'s J. B. Eubanks 1, Robert Mitchell Survey No. 141. Effort was made to widen old producing areas as well as to uncover new ones, as indicated by the heavy toll of dry holes.

Shackleford County

Shackleford County came through with its usual quota of new discoveries during 1928, and considerable development work followed completion of Tannehill Oil Company et al's 700-barrel shallow producer on the J. B. Matthews ranch, and the Roeser-Pendleton and Marland Production Company's W. I. Cook 1-A, Section 62, which opened a new pool to the north of the original Cook ranch field. Petroleum Producers Company, Wichita Falls, gave the county a new pool in December on the Davis Brothers ranch in Section 19, Block 1, T. & P. Ry. Survey. The bulk of the new production credited to Shackleford County during 1928 came from the joint properties of Roeser-Pendleton and Marland Production Company on the Cook ranch, and a number of proven locations remain to be drilled.

The re-drilling of old areas in Eastland and Stephens Counties furnished the bulk of the field work credited to them during 1928, with a number of minor extensions recorded. This work is being done largely by independent companies and individuals. The arrival of a good market for natural gas in these two counties has been a great financial aid to the small operators, as commercial gas production is often obtainable from tests that miss the oil pay by plugging back, and natural gasoline plants are paying top prices for "wet" gas.

Wilbarger County

Wilbarger County came into its own during 1928 after many years of erratic activity, and accounted for the greatest number of producing oil wells credited to the North Texas district. This county's drilling boom got started in the spring, and by mid-summer the daily production climbed to a new record as well as taking the lead over all other counties in the district. However, it finished second to Wichita County for the year, with Archer County occupying third position with less than 1,000,000 barrels behind. Wilbarger County reached a peak of 36,575 barrels daily on August 15, and because of inadequate pipe line and market outlet production had to be pinched. This is the only instance of over-production and restricted crude runs in the North and Central Texas district in a number of years, and existed for only a few weeks, as additional pipe line facilities were made available about the time the flush output began declining. Nearly all field work in Wilbarger County was confined to the W. T. Waggoner ranch, and centering around the Greyback and Consolidated pools. The latter was opened by the Consolidated Oil Company, Wichita Falls, on the Waggoner ranch, Section 5, Block 5, H. & T. C. Survey, with an initial flow of 450 barrels at 1850 feet.

Young County set the pace during 1928 for the entire district on drilling because of the campaign waged in the north end of the county with light rotaries and machines after the discovery of a prolific shallow sand by Pennell Oil Company's Boone 1, which made 225 barrels initial at 504-515 feet in February. Prior to completion of this shallow well, E. C. Reed and associates' Langston 1, Section 1490, had developed a small pumper about one mile to the north from the same pay level, but the best shallow wells were found in the vicinity of the Boone land. Petroleum Producers Company, Peyton F. Gwynn et al and Prairie Oil & Gas Company each opened new pools from the shallow horizons in the northern part of the county that led to the drilling of more than a dozen tests each. Panhandle Refining Company opened a new deep lime pay producing area in the central part of the county in November on the H. Morrison land with a initial flow of 200 barrels. About 300 dry holes were credited to Young County during 1928 because of the widespread interest taken by small operators in searching for shallow pools, and through their efforts in trying to widen established pools and fields.

Wichita County

Wichita County's contribution to the wildcat discovery column are really semi-wildcats, because of the nearness of the new strikes to old areas. The K-M-A & Iowa Park district, located in the southern end of the county, contributed most of the new production and completions, and a sizeable campaign was launched on the K. & K., Hodges and Taylor farms late in the year when Holbrook & Wood's Hodges 1-A made a 50-barrel pumper from new sand at the 1450-foot level.

(Continued on page 56))

NORTH TEXAS DISTRICT DISCOVERY WELLS IN 1928

Company-Farm-Location	Producing Horizon	Total Depth	Date Comp.	Initial Prod.
ARCHER COUNTY—				
Barclay & Wright's L. F. Wilson 1, (1 mi. e of Archer City)	1078-1080	1080	Jan. 1928	10
C. W. Gilliland et al's Neimeyer 1, Sec. 2415, TE&L sur.	1402-1405	1405	May, 1928	60
F. H. Gohlke et al's Parrish 1, Lot No. 232, Geraldine Townsite	1552-1558	1558	Feb. 1928	40
F. C. Grebin et al's Alexander 1, (NE of Megargel)	1412-1414	1414	May, 1928	10
Harry Hines et al's Morritz Phillips 1	1175-1180	1180	Dec. 1928	20
Harry Hines & Stump & Co.'s Wallace 1, (east of Holliday)	1001-1011	1011	June, 1928	80
Humble O. & R. Co.'s Geo. B. Hamilton 1-A	1117-1120	1145	May, 1928	30
Panhandle Ref. Co.'s Garvey 1, Sec. 1856, TE&L sur	945- 955	955	Jan. 1928	90
C. L. Richardson et al's Richardson 1, Jas. Scott sur.	1261-1263	1263	July, 1928	25
Turner & Winemiller's Jeff Lyles 1	1686-1694	1694	Oct. 1928	250
COOKE COUNTY—				
Bulcher O. & G. Co. & Powell Oil Co.'s H. L. Dennis 1, A. Pope sur., Abst 818	1549-1555	1555	Oct. 1928	15
W. J. Green & Skelly Oil Co.'s Eldridge-Balle 1, (East of Muenster)	746- 759	759	Oct. 1928	8
W. L. Griffee et al's D. Wheelock 1, (Ne cor W. Teal sur. Abst 1036)	1314-1332	1332	Nov. 1928	10
Thornton-Taubert Oil Co. et al's R. B. Poteet 1, (15-ac lse in NW part J. L. Stephens sur, A-1001)	1262-1271	1271	Oct. 1928	50
HASKELL COUNTY—				
Moody Corp. (now Superior Oil Prod. Co.)'s Reynolds 1, (NW cor J. Fenner sur. Abst. 582)	1728-1732	1732	Oct. 1928	100
JACK COUNTY—				
Bryson O. & G. Co.'s Oliver Loving 1, (SW cor J. C. Ragsdale sur. Abst. 504)	3167-3175	3175	Dec. 1928	500
Carl Leidecker et al's State Bank (Bryson) Fee 1, O. P. McKenzie sur. A-1980	3290-3376	4065	April, 1928	40
Panhandle Ref. Co.'s Daugherty 1, Isaac Hughson sur. A-256.	2957-2967	3890	April, 1928	200
THROCKMORTON COUNTY—				
F. W. Holder et al's R. M. Titus 1, (Nancy Williams sur.)	606- 612	612	Aug. 1928	25
Woodson Oil Co.'s J. G. Overcash 1, SW cor. SW¼ Sec. 960 TE&L sur.	1306-1307	1307	Aug. 1928	80
WICHITA COUNTY—				
Atlantic Oil Prod. Co.'s Barton 1	1746-1747	1747	Jan. 1928	120
J. S. Bridwell & Mayfield's T. J. Womac 1	1316-1329	1329	April, 1928	25
Harry Hines & Panhandle Ref. Co.'s Waggoner Bros 1	1394-1398	1398	June, 1928	70
Holbrook & Woods' Hodges 1-A	1400-1450	1450	Nov. 1928	50
Bridwell Oil Co.' Tom Burnett et al 1	1915-1920	1920	Oct. 1928	25
WILBARGER COUNTY—				
Consolidated Oil Co.'s W. T. Waggoner 1, (Sec. 5, H&TC Ry. sur. Blk. 5)	1845-1855	1855	May, 1928	450
Easter Oil Co.'s W. T. Waggoner 1-B, Sec. 39, MEP&P Ry sur.	1913-1921	1921	Dec. 1928	135
Golding-Cochran & Marland's W. T. Waggoner 1, (SE¼ Sec. 4, Blk. 17, H&TC Ry. sur.)	1912-1919	2654	June, 1928	100
Fain-McGaha Oil Corp.'s W. T. Waggoner 1-O, (NW¼ Sec. 50, Blk. 4, H&TC Ry sur)	1288-1295	1295	March. 1928	45
Phillips Pet. Co.'s W. T. Waggoner Norwood 1	2365-2378	2378	July, 1928	300
The Texas Co.'s W. T. Waggoner 1-D, C N½ Sec. 43 ME&P Ry. sur.	2356-2375	2375	March 1928	145
YOUNG COUNTY—				
Continental Oil Co. & Underwood Drilling Co.'s Campbell 1, Sec. 1390, TE&L sur.	872- 879	879	Nov. 1928	30
P. F. Gwynn et al's Kunkel 1.	1140-1145	1145	April, 1928	85
W. M. Langee et al's W. C. Robinson-Swain 1, Sec. 1466 TE &L sur.	714- 719	719	July, 1928	40
Panhandle Ref. Co.'s H. Morrison 1, Sec. 465, TE&L sur. A-672	4274-4294	4405	Nov. 1928	200
Panhandle Ref. Co. & Elmer Gatewood's P. K. Pittman-Gregg 1 (NE cor W¼ of W. Mathew's Sur., A-1484)	718- 725	725	March, 1928	70
Paull Oil Co.'s Allen 1	2084-2095	2095	July, 1928	100
Pennell Oil Co.'s Boone 1, (NW cor. Sec. 1, BBB&C Sur., Abst. 34	504- 515	515	Feb. 1928	225
Pet. Prod. Co.'s H. Hennig 1, (SW part Sec. 410, TE&L sur.	1087-1091	1091	May, 1928	35
Prairie O. & G. Co.'s Campbell 1, (Sec. 1370, TE&L sur.)	977- 980	980	Aug. 1928	75

CENTRAL WEST TEXAS DISCOVERY WELLS IN 1928

Company-Farm-Location	Producing Horizon	Total Depth	Date Comp.	Initial Prod.
BROWN COUNTY—				
Clark-Buffalo Oil Co.'s Brown County Fee 1, (James Kenny Sur. No. 624)	1096-1102	1102	Feb. 1928	240
Cranfill-Reynold's, Inc. et al's J. B. Eubanks 1, (Sec. 141, Robt. Mitchell Sur.)	1210-1225	1225	March, 1928	750
Cranfill-Reynolds, Inc.'s Hill 1, Myram Mudgett Sur. No. 63	1299-1305	1305	Feb. 1928	50
COLEMAN COUNTY—				
Anzac Oil Co. & Continental Oil Co.'s Gardner 1, (NE cor. Sec. 748, B. Ferguson Sur.)	2298-2306	2306	Feb. 1928	170
Amerada Pet. Corp.'s W. L. Knox 1, Sec. 10, Trevino sur.	1607-1620	2349	April, 1928	¶12
Barbee-Ross & Sterling O. & G. Co.'s Weir 1, Sec. 744, M. Lopez sur.	2105-2115	2115	June, 1928	¶10 & 20
E. J. Cunningham et al's G. W. Jennings 1-B, A. S. Lipscomb Sur. No. 94	1172-1177	1177	April, 1928	110
W. T. Daniels et al's Moody 1, J. Scott Sur. No. 665	1840-1848	1848	May, 1928	175
Henshaw Oil Corp. (now American-Maracaibo Co.)'s M. K. Harris 1, Sec. 25, GH&H Ry. sur., Blk. 1	2611-2622	2622	July, 1928	55
Manhattan Oil Co.'s Overall 1, Sec. 14, BBB&C Ry. sur.	2282-2290	2500	Feb. 1928	30
Roth & Faurot's Sealy-Smith 2, Sec. 19, BBB&C Ry. Sur.	2907-2937	2940	Feb. 1928	120
Levi Smith et al's J. Brenke 1, S. Sprague sur.	1850-1857	1857	Jan. 1928	80
F. P. Zoch&McMan & The Texas Co.'s J. W. Vance 1, Sec. 101, E. T. Ry. Sur.	2035-2042	2043	May, 1928	¶8
SHACKELFORD COUNTY—				
Geo. Callahan et al's J. H. Nail 5, Sec. 151, E. T. Ry. Sur	1636-1642	1666	Oct. 1928	10
Pet. Producers Co.'s Davis Bros. 1, Sec. 19, Blk. 1, T&P Ry. sur.	1620-1625	1625	Dec. 1928	75
Roeser-Pendleton & Marland Prod Co.'s W. I. Cook 1-A, Sec. 62, E. T. Ry. Sur.	1336-1350	1350	Feb. 1928	735
Tannehill Oil Co. et al's J. B. Matthews 1, Sec. 34, Blk. B 010, E. T. Ry. Sur.	1140-1145	1145	Feb. 1928	700
F. P. Zoch & The Texas Co.'s J. F. Sedwick 1, Sec. 1, Blk. 10, E. T. Ry. Sur.	550- 553	553	Sept. 1928	10
STEPHENS COUNTY—				
C. M. Root et al's Hamil 1, Sec. 6, L. A. L. Sur.	3227-3248	3248	Oct. 1928	850

SOUTHWEST TEXAS DISTRICT DISCOVERY WELLS IN 1928

Company-Farm-Location	Producing Horizon	Total Depth	Date Comp.	Initial Prod.
BASTROP COUNTY—				
Cranfill-Reynolds and A. M. Loomis Andy Yost 1	1480-1548	1598	Nov. 1928	175
CALDWELL COUNTY—				
Sun Oil Co.'s Cora Malone	2735-2743	2743	Oct. 1928	735
Sun Oil Company's & Cranfill & Reynolds', Mrs. L. A. Cardwell 1	1509-1515	1515	Oct. 1928	35
GONZALES COUNTY—				
Empire Gas & Fuel Co.'s Mrs. R. M. Norwood 1	3754-3779	3779	Dec. 1928	300
WASHINGTON COUNTY—				
Sun Oil Company's Geo. F. Grote 1	1140-1358	1474	Oct. 1928	125

WEST TEXAS DISTRICT DISCOVERY WELLS IN 1928

Company-farm Location	Elev.	Top Salt	Top Lime	Prod. Horizon	Total Depth	Date Comp.	Ini'tl Prod.	Oil Gravity
FISHER COUNTY								
The Texas Co.'s Dan W. Stephens 1-A	1937	....	3190	3238-3275	3275	1-17-28	280	38-39
HOWARD COUNTY								
Henshaw Oil Cil Corp.'s (now American-Maracaibo Co.'s) W. R. Settles 1-A	2708	....	2001	2208-2232	2248	8- 7-28	4,200	32-33
IRION COUNTY								
Moore & Kennedy (now Denny & Andrews) Tankersley 1	2283	....	....	1341-1344	1344	7-22-28	15	37-38
JONES COUNTY								
Hutson-Weaver (now Roberts Oil Corp.) A. T. Smith 1-A	1824	....	....	2498-2533	2533	1-20-28	75	39-40
Hucony Gas Co.-Atkinson & Sandefer's J. W. Tiner 1	1853	....	....	2526-2532	2532	5-23-28	760	39-40
PECOS COUNTY								
Pecos Valley Oil Co.'s Pecos Land Co. Fee 1	2501	1115	....	1626-1628	1628	11-20-28	120	35-36
REAGAN COUNTY								
Skelly Oil Co. & Utah Southern's University 1	2874	1340	3065	3136-3154	3157	2- 6-28	40	32-33
RUNNELS COUNTY								
Rob't. Watchorn et al's J. L. King	1660	....	....	3475-3485	3732	5-28-28	3	Mil.gas
WARD COUNTY								
Prairie O & G Co.'s John Sealy 1	2666	1073	3110	2526-2575	3505	12-22-28	5	Mil.gas
Shipley O.I Corp.'s S. F. Hayzlett 1	....	727	2380	2480-2481	2481	11- 2-28	125	34-35
WINKLER COUNTY								
V. T. Bolin et al (now McGinley-Sigler Corp.'s) Brown-Altman 1	2847	1302	....	2745-2812	3211	7-19-28	25	36-37
Gibson-Johnson & Kessler-Logan (now Atlantic-Kessler-Logan's) Daugherty 1	2883	1890	2687	3159-3164	3167	5- 9-28	4.000	28-29
Sid Richardson et al's O'Brien-Ft. Stockton 1	2722	2035	2648	2805-2975	2975	10-15-28	2,100	28-29

North and Central West Texas Areas Have Quiet Year

(Continued from page 53)

This area had previously been producing from shallower sands, and the new discovery led to drilling that furnished a number of completions that swabbed between 500 and 800 barrels daily. Activity in the Electra and Burkburnett fields was slow during the year.

Panhandle Refining Company's wildcat test on the Daugherty farm, located in the western part of Jack County and near the town of Bryson, developed a flow of 200 barrels at 2957-67 feet in April, and at the end of the year exploration work conducted on nearby acreage indicated that this strike ranks as being the most important made in the district, excepting those in Wilbarger County. The Bryson Oil & Gas Company's Oliver Loving 1, located about three miles northeast of the above discovery well, was completed as a 500-barrel well in December from Strawn sand at 3167-75 feet. These two discoveries may be on the same producing area, and lease owners on acreage in between will be busy exploring same during 1929.

Throckmorton County failed to contribute much new production during 1928, but did score several new pools, including the Woodson Oil Company's wildcat test on the Overcash land, with an initial production of 80 barrels from top of sand encountered at 1306 feet. Cooke County made a good start toward a revival of field work during the last half of 1928 through the completion of successful extensions to the Bulcher, or Hoosier field, and the Muenster pool, while three wildcats were opened in October, but none of these have shown for enough production to warrant a drilling campaign.

The Texas Panhandle district suffered from low crude prices in the way of field work during 1928, and comparatively few wells were drilled in the district outside of Gray County, where high gravity oil is obtainable. The demand for the oil as produced was ample to maintain a firm market situation, but major crude purchasing agencies continued to penalize Panhandle oil 15 to 25 cents per barrel under the quotations posted for similar gravities in the Mid-Continent proper.

About 200 new oil producers were added to the district during 1928, and more than one-half of these came from Gray County, particularly in the Bowers and LeFors pools, where occasionally a large flowing well was found in the lime, or granite wash pay. Drilling in Hutchinson and Carson Counties was mostly confined to necessary offsets, and lease requirements.

The increase of the demand for natural gas in the Texas Panhandle district to about 225,000,000 cubic feet daily has materially aided companies and operators with gas production on their properties, although the market price is comparatively low. A number of gas tests were drilled in Wheeler, Carson, Hutchinson, Gray and Moore Counties during 1928 as result of the improved gas market situation.

West Texas Wildcat Effort Nets 13 New Producing Spots

By H. H. KING
Staff Representative

SAN ANGELO, Texas. — Wildcat activities in the West Texas district during 1928 resulted in 13 separate oil and gas discoveries, thus establishing a new record for successful strikes within 12 months for the district. Only a few of these late additions to the producing ranks in the district yielded sufficient oil or gas to warrant starting an active development program, while none offer immediate prospects of having any bearing on the general crude situation by reason of developments underway and proposed.

Overshadowing all discoveries made in the district during 1928, the Texon Oil & Land Company's University 1-B, Group One, located in the Big Lake field proper, furnished the greatest surprise of the year by making a commercial oil producer from the world's record depth of 8500-23 feet, thereby establishing new horizons to shoot at when crude prices justify. This well encountered the pay horizon during the last week in November, starting off with a flow of 7½ barrels of oil and small gas pressure. However, the gas and oil flow showed a steady gain, and by the end of December was 1302 barrels of 56 gravity oil and 12,500,000 cubic feet of sweet gas. The Big Lake field is to be the scene of more deep drilling during 1929, with the Big Lake Oil Company taking an active part.

Wildcat strikes made in Winkler and Howard Counties during 1928 rank as being the most important from a production standpoint, due to the size of wells and amount of new work being started. Gibson-Johnson and Kessler-Logan's (now Atlantic Oil Producing Company and Kessler-Logan) Daugherty 1, located about nine miles north of the Hendrick field and near the Texas-New Mexico state line, gave Winkler County its second oil field May 9, 1928, with an estimated flow of 4000 barrels of oil and considerable water from lime at 3159-67 feet. Although this area has since been defined to the southwest and northeast, thereby narrowing the producing structure at this point to about three-quarters of a mile, it offers good prospects of taking either a north or south trend, and the drilling up of the field will take place in 1929. Winkler County added a small pumper to the east of the Hendrick field proper in July through the efforts of V. T. Bolin and associates on the Brown-Altman land, but this strike is hardly a commercial producer, while production was developed in the lower end of the county on the O'Brien-Ft. Stockton Land Company land by Sid Richardson and associates. This latter strike scored three nearby failures before the close of the year, with the trend of production taking a northwest course toward the Hendrick field, with prospects of the two being connected.

Southern Howard County

Henshaw Oil Corporation et al's (now American-Maracaibo Company) Eason-Settles 1 opened a new field in Southern Howard County and west of the original deep lime production in August, with an initial flow of 4200 barrels of 33 gravity oil daily from lime at 2208-32 feet. This strike has been directly responsible for the starting of more tests, and a greater volume of new production than any other wildcat completion made during 1928, but the flush production has been restricted to the first well, while nearly all new completions must be swabbed, or pumped, but 1000 barrel pumpers are common occurrences. This pool is partially defined to the north of the discovery well, but offers favorable prospects of spreading over a wide area in other directions. Proration rules in effect restricts drilling.

Considerable drilling activity took place in Jones County during the last six months of the year due to the opening of the Smith pool in January by Hutson-Weaver-Shaheen's (now Robert Oil Corporation) A. T. Smith 1, which made a 75-barrel high gravity pumper at 2498-2533 feet. However, this area did not attract attention until Hucony Gas Company and Atkinson-Sandefer's J. W. Tiner 1, a semi-wildcat, developed a flow of 760 barrels at 2526-2532 feet in May, 1928. Development over the balance of the year spread the producing area in all directions from the latter discovery well, and practically connected the two areas. This activity sent the total output of Jones County to about 7500 barrels daily for a few weeks, but field work is now on the decline.

Fisher County

Fisher County, which adjoins Jones County to the west, scored its first oil production in January, 1928, when The Texas Company's Dan W. Stephens 1-A, a twin location to a shallow junked hole, pumped 280 barrels daily from lime at 3238-3275 feet. This strike led to the drilling of seven more wells on scattered

(Continued on page 98)

Oklahoma Geological Survey correlates data from recent drilling and research of geologists over a period of many years, showing relation of district to nearby oil and gas producing areas; the probable oil measures are deep and the producer's interest dates from his ability to reach those greater depths.

Western Oklahoma Has Important Potentialities When Oil Is Needed

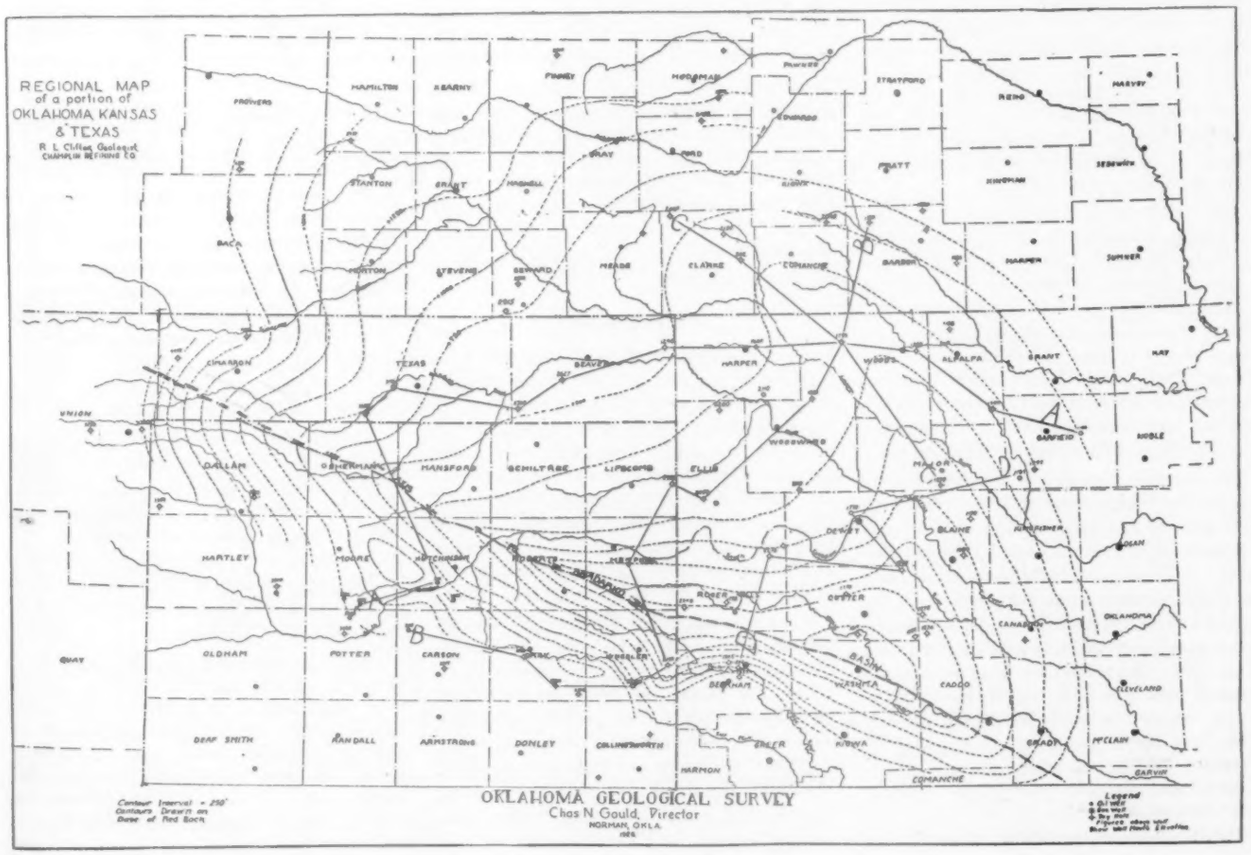
By WARREN BAKER
Staff Representative

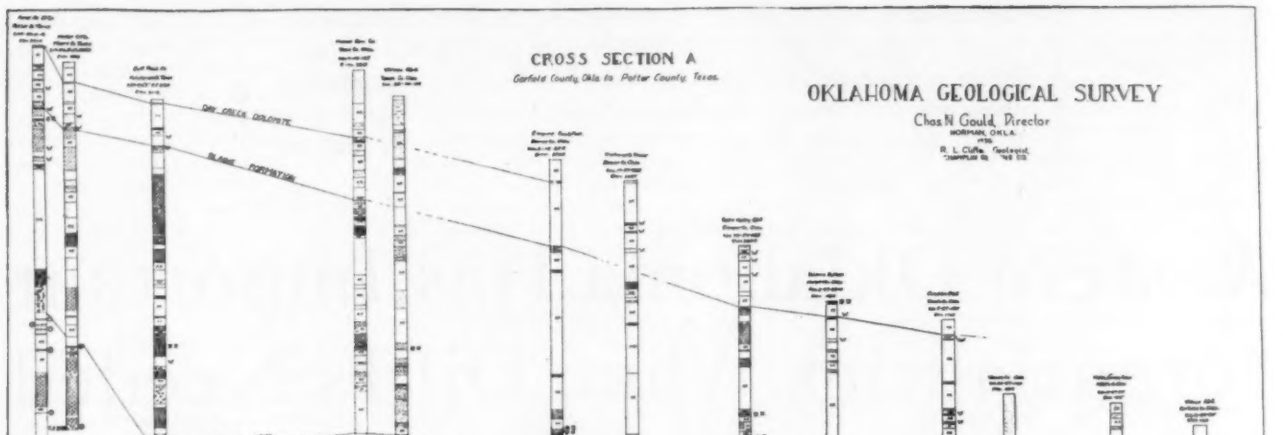
TULSA.—When the present confusion in the ranks of the Mid-Continent crude oil production situation has been cleared up and Oklahoma operators feel the urge to commence a wildcatting campaign for the purpose of building up a state's crude oil production, it is very probable that Western Oklahoma will experience its first big play with the bit.

This vast territory has remained unexplored during the years, while developments have gone on around it. In the early days of Oklahoma oil development poor drilling equipment prevented the exploration of the deep laying formations of the area. The great depths to which the producing horizons of Eastern Oklahoma have sunk in this part of the state were soon discovered and oil operators pushed the western half of the state out of the picture.

Today, speedy, heavy equipment capable of penetrating to the great depths necessary in reaching these formations have renewed interest in the district. Despite the large over-production of crude oil the area is at present enjoying its greatest drilling work. Oil men are keeping the corner of their eye on the district, acknowledging that it looks very promising.

During the past several years the anticipated play has been held back by discoveries in other areas each time it seemed destined to get its start. The wildcat play of Oklahoma was fast spreading into the western half of the state in 1926, when the Seminole field was found. The tremendous flood of crude oil from that rich spot more than furnished enough oil to meet the demand as as a result wildcat activity throughout the state slumped. Seminole is still producing a large volume of oil daily and drilling activity has remained rather inactive in the western part of the Sooner State, although at present at its peak. More recently the strike at Oklahoma City has retarded the district's development, by taking the play. At the





same time this discovery is proving a tremendous booster since it indicates the existence of oil production in the deep horizons of Western Oklahoma.

During the past 50 years geologists have been busy studying the formations found in the Great South Plains, covering Southwestern Kansas, Southeastern Colorado, Western Oklahoma, Eastern New Mexico, Texas Panhandle and West Texas. The discovery of oil and gas production in the Texas Panhandle, West Texas, and the eastern side of Western Oklahoma during the past few years has given a tremendous impetus to geologic work in this region.

An intensive study of Western Oklahoma has been under way for the past two years. The seismograph, the torsion balance, the magnetometer, the plane-table, and the core drills have been used. At the same time a careful plotting of the logs of wells have been made. Samples from these tests have been examined and identified. As a result a broader knowledge is had, especially of Western Oklahoma, where few wells have been drilled. This broader knowledge has resulted in Western Oklahoma being given a much higher potential oil production position than heretofore held.

Practically surrounded by oil producing regions, it seems probable that the vast district of Western Oklahoma should also bear oil. To the east are the famous oil fields of Eastern Oklahoma, to the south are the pools of Southern Oklahoma and North Texas, to the west is the Texas Panhandle and to the north the West Kansas production.

Paleography

As previously mentioned, Western Oklahoma is a part of the Great South Plains. It is thought that during the Protozoic and early Paleozoic ages that the area was a mass of low elevations. During the various periods of the Paleozoic era the district was swept a number of times by invading seas. Although not as frequent, these invasions from the seas continued up until the latter part of the Mesozoic period.

These invasions of the marine waters left their deposits when they retreated, but many of them have been carried away by erosion during the ages following. But undoubtedly Protozoic period rocks underlie all of Western Oklahoma. The depths of these are not known throughout the area, but it is probably very great. Outcrops of rocks belonging to the various periods of the Paleozoic era are to be found in various parts of the Great Plains.

Oil fields of today are considered to be in the beds or along the shore lines of ancient seas. Fossils found in the drilling of tests indicate this. Decomposed fish, reptiles, mammals and vegetation are thought to be the origin of oil. No doubt, many of the former were trapped inland by the retreating seas during these prehistoric times.

Structural Features

Geologically, Western Oklahoma is a great basin, lying between the Ozark Mountain uplift on the east and the Rockies on the west, the Wichitas to the south and the higher plains to the north. In this respect, and many others, it has a striking resemblance to West Texas, which is located in the extreme southern part of the Great South Plains.

There are several structural features in Western Oklahoma. The Wichita Mountains constitute a structural high, while the Anadarko Basin and the trough or syncline running north are structural lows. The Anadarko Basin lies along the north side of the Wichita Mountains, which are in Southwestern Oklahoma. During the Permian periods this basin

was probably one of deposition for the rivers from the north, northeast, northwest and west.

From the Anadarko Basin running north into Barton County, Southern Kansas, is a trough, as shown by the dipping of the formations from the east and west. The depth of the Protozoic rocks in this trough and in the Anadarko Basin are probably very great. North of this point, in the west-central counties of the western half of the state (in the vicinity of Washita County) the depth is perhaps not so great.

Stratigraphy

As stated, Protozoic igneous rocks probably underlie Western Oklahoma. The depth of which is not known over the entire area but which is probably very great. We are not greatly interested in the rocks of this age and the early Paleozoic era, but are tremendously interested in the later part of the Paleozoic age, where the Permian and Pennsylvanian formations are located. The Permian and Pennsylvanian are our chief crude oil sources and can be expected to carry the oil anticipated in Western Oklahoma.

There are two principal divisions of the Permian in Western Oklahoma, namely the Enid and Woodward groups. These groups are also divided into divisions. The Enid is composed of the following formations: (naming from the deepest and oldest to the younger) Stillwater, Wellington, Garber, Hennessey, Duncan and Chickasha. The Woodward includes the Blaine, Dog Creek, Whitehorse, Day Creek, Cloud Chief, and Quartermaster formations. These will be dealt with separately in the order of their age.

Enid Formation

The Enid includes an almost unbroken succession of red material. All of its divisions are not recognizable in all districts.

The Stillwater is a series of red and gray sandstones and red shales. It is probably equivalent to the Marion, Chase and Council Grove groups of Southern Kansas and North-Central Oklahoma, and the Big Lime in the Texas Panhandle. The formation outcrops near Stillwater, county seat of Payne County, where it is an alternating bed of red shales and red and gray sandstones, which is typical Stillwater.

The Wellington, next lying formation, is made up of gray and blue drab shales with numerous thin beds of gray "mudstone." Its bluish color can easily be distinguished from the red overlying horizon and for that reason it is one of the principal markers of Western Oklahoma. The northwestern part of Oklahoma and Southern Kansas carries considerable salt in this formation. Very little salt is reported to the south in the Anadarko Basin, but many thin lime shells are found.

The Garber, lying above the Wellington, is a series of red clay shales, red sandy shales and red sandstones. The formation outcrops near Garber, in Garfield County, and takes its name from that town. This formation correlates with the lower Harper as found in Southern Kansas.

The Hennessey is a red clay-shale formation, found exposed near the town of Hennessey, in northern Kingfisher County. The formations above and beneath it consist chiefly of sandstone and for that reason it can easily be determined. The Hennessey is different from other red shales in the lower part of the Enid, in that it is commonly blocky and breaky with thin streaks or bands of different colors. The Hennessey is correlated with the Harper of Southern Kansas.

Above the Hennessey is a sandstone formation called the Duncan. It is correlated with the upper part of the Harper in Southern Kansas. The Duncan outcrops near the circumference of the Anadarko Basin. This formation is generally made up of soft, friable or shaly red sandstone.

The top of the Duncan is sometimes difficult to determine from the base of the Chickasha, which is composed of gypsiferous red clay-shales and thin sandstones. Near the Anadarko Basin this horizon consists of sandstones and shales rather purple in color, which gradually change to the north into brick-red shales. This formation correlates with the Flowerpot shales of Southern Kansas.

Woodward Group

The Blaine is a zone of anhydrites and red shales with a few thin dolomites, which becomes gypsum when exposed. This formation outcrops in several places in Northwestern Oklahoma, near the Gypsum Hills of Woods and adjoining counties. Much surface work is based upon this gyp horizon. Some do not include the Blaine as a part of the Woodward, but as a separate formation of any group.

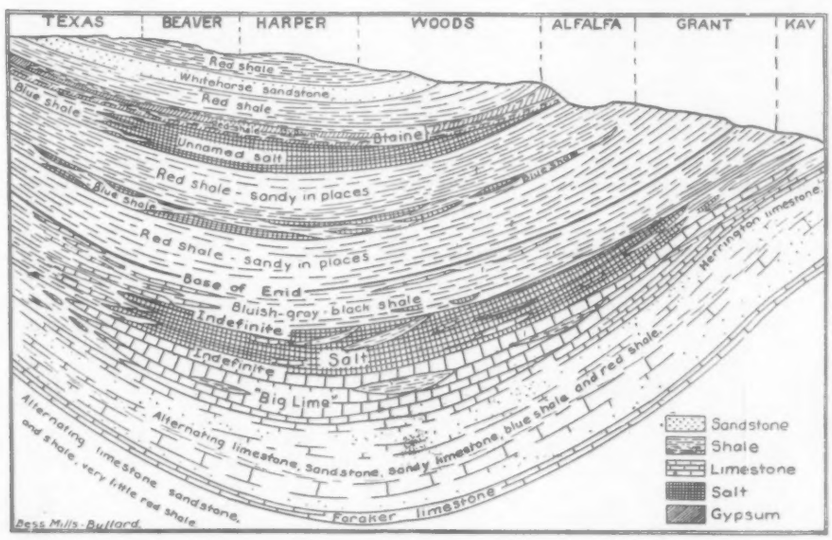
The Wooward formations add little information since few wells in Western Oklahoma have found any formations of great thickness.

Some red shale is logged just above the Blaine, which is named the Dog Creek shales. Above these shales comes a series of sandstones called the Whitehorse sandstones. This formation is about 175 feet thick, as found in the wells of the Sayre field, Beckham County. Above this formation lies the Day Creek dolomite, which is succeeded by the Cloud Chief gypsum, which is found in scattered localities along the Canadian River in the form of red sandy shale deposits. These are thought to be correlative of the Hackberry shale of Kansas. The typical type is to be found in Washita County, Oklahoma, and north and west across Custer, Dewey, Woodward, Ellis, Harper and Beaver Counties, Oklahoma. Near Weatherford, in southeastern Custer County, the Cloud Chief gypsums lie a short distance above the Day Creek, but there are few localities in which both formations are exposed, and for this reason many consider the Day Creek as the basal part of the Cloud Chief.

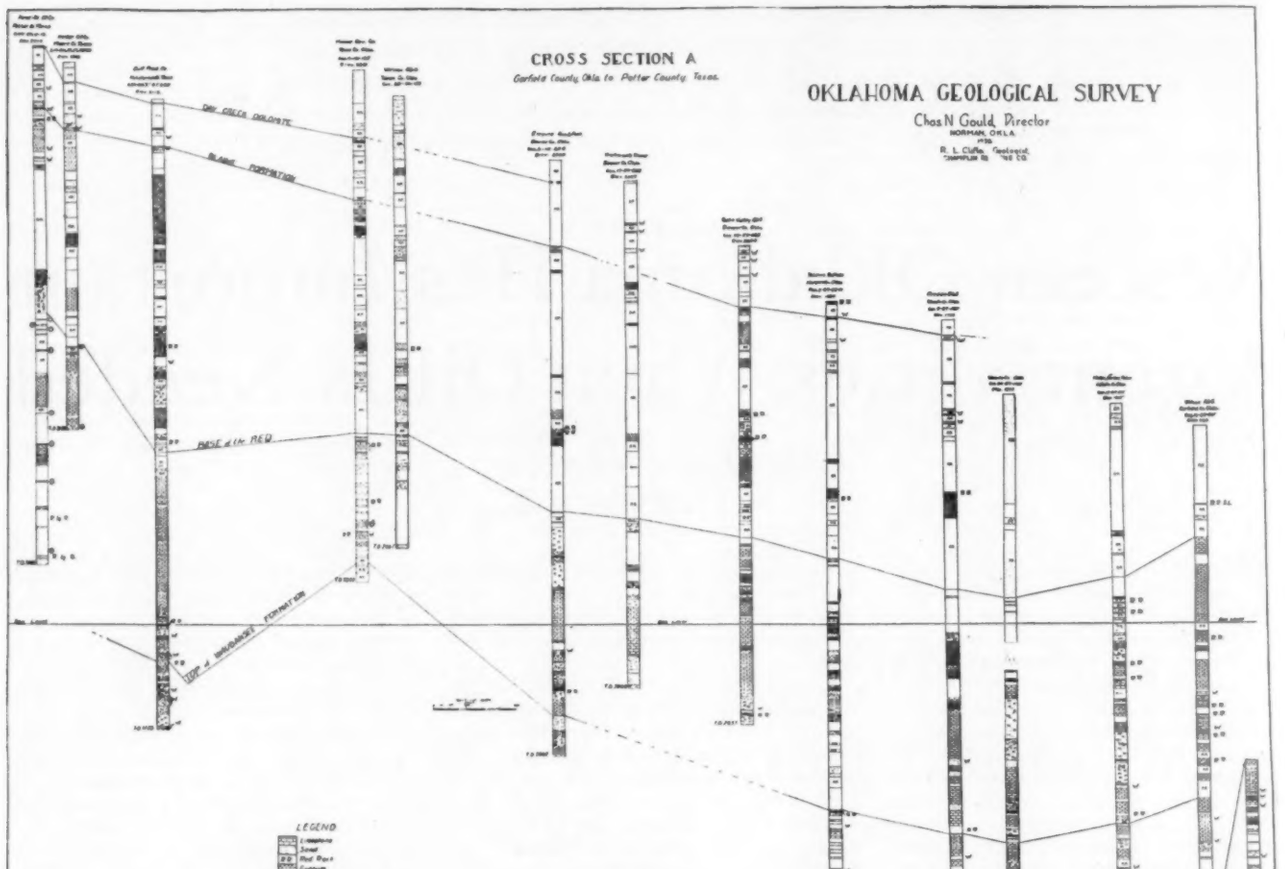
Above this formation are a few Triassic, Cretaceous and Tertiary rocks of later periods, with the exception of where they have been eroded away along stream banks and the like.

The soft shales and sandstones making up the Woodward, offer a different drilling problem from those found in the eastern fields of Oklahoma. They are very cavey, while the cavey materials of Eastern Oklahoma, particularly in the Seminole district, are not found until a much lower depth. In Western Oklahoma after penetrating these soft horizons trouble with caves is practically absent.

There is much more to learn of the formations in Western Oklahoma. The present drilling wells will offer a basis for much study, and there may be several revisions made of the present idea.



Diagrammatic cross-section extending eastward from Texas County to Kay County, Oklahoma



same time this discovery is proving a tremendous booster since it indicates the existence of oil production in the deep horizons of Western Oklahoma.

During the past 50 years geologists have been busy studying the formations found in the Great South Plains, covering Southwestern Kansas, Southeastern Colorado, Western Oklahoma, Eastern New Mexico, Texas Panhandle and West Texas. The discovery of oil and gas production in the Texas Panhandle, West Texas, and the eastern side of Western Oklahoma during the past few years has given a tremendous impetus to geologic work in this region.

An intensive study of Western Oklahoma has been under way for the past two years. The seismograph, the torsion balance, the magnetometer, the plane-table, and the core drills have been used. At the same time a careful plotting of the logs of wells have been made. Samples from these tests have been examined and identified. As a result a broader knowledge is had, especially of Western Oklahoma, where few wells have been drilled. This broader knowledge has resulted in Western Oklahoma being given a much higher potential oil production position than heretofore held.

Practically surrounded by oil producing regions, it seems probable that the vast district of Western Oklahoma should also bear oil. To the east are the famous oil fields of Eastern Oklahoma, to the south are the pools of Southern Oklahoma and North Texas, to the west is the Texas Panhandle and to the north the West Kansas production.

Paleography

As previously mentioned, Western Oklahoma is a part of the Great South Plains. It is thought that during the Protozoic and early Paleozoic ages that the area was a mass of low elevations. During the various periods of the Paleozoic era the district was swept a number of times by invading seas. Although not as frequent, these invasions from the seas continued up until the latter part of the Mesozoic period.

These invasions of the marine waters left their deposits when they retreated, but many of them have been carried away by erosion during the ages following. But undoubtedly Protozoic period rocks underlie all of Western Oklahoma. The depths of these are not known throughout the area, but it is probably very great. Outcrops of rocks belonging to the various periods of the Paleozoic era are to be found in various parts of the Great Plains.

Oil fields of today are considered to be in the beds or along the shore lines of ancient seas. Fossils found in the drilling of tests indicate this. Decomposed fish, reptiles, mammals and vegetation are thought to be the origin of oil. No doubt, many of the former were trapped inland by the retreating seas during these prehistoric times.

Structural Features

Geologically, Western Oklahoma is a great basin, lying between the Ozark Mountain uplift on the east and the Rockies on the west, the Wichitas to the south and the higher plains to the north. In this respect, and many others, it has a striking resemblance to West Texas, which is located in the extreme southern part of the Great South Plains.

There are several structural features in Western Oklahoma. The Wichita Mountains constitute a structural high, while the Anadarko Basin and the trough or syncline running north are structural lows. The Anadarko Basin lies along the north side of the Wichita Mountains, which are in Southwestern Oklahoma. During the Permian periods this basin

was probably one of deposition for the rivers from the north, northeast, northwest and west.

From the Anadarko Basin running north into Barton County, Southern Kansas, is a trough, as shown by the dipping of the formations from the east and west. The depth of the Protozoic rocks in this trough and in the Anadarko Basin are probably very great. North of this point, in the west-central counties of the western half of the state (in the vicinity of Washita County) the depth is perhaps not so great.

Stratigraphy

As stated, Protozoic igneous rocks probably underlie Western Oklahoma. The depth of which is not known over the entire area but which is probably very great. We are not greatly interested in the rocks of this age and the early Paleozoic era, but are tremendously interested in the later part of the Paleozoic age, where the Permian and Pennsylvanian formations are located. The Permian and Pennsylvanian are our chief crude oil sources and can be expected to carry the oil anticipated in Western Oklahoma.

There are two principal divisions of the Permian in Western Oklahoma, namely the Enid and Woodward groups. These groups are also divided into divisions. The Enid is composed of the following formations: (naming from the deepest and oldest to the younger) Stillwater, Wellington, Garber, Hennessey, Duncan and Chickasha. The Woodward includes the Blaine, Dog Creek, Whitehorse, Day Creek, Cloud Chief, and Quartermaster formations. These will be dealt with separately in the order of their age.

Enid Formation

The Enid includes an almost unbroken succession of red material. All of its divisions are not recognizable in all districts.

The Stillwater is a series of red and gray sandstones and red shales. It is probably equivalent to the Marion, Chase and Council Grove groups of Southern Kansas and North-Central Oklahoma, and the Big Lime in the Texas Panhandle. The formation outcrops near Stillwater, county seat of Payne County, where it is an alternating bed of red shales and red and gray sandstones, which is typical Stillwater.

The Wellington, next lying formation, is made up of gray and blue drab shales with numerous thin beds of gray "mudstone." Its bluish color can easily be distinguished from the red overlying horizon and for that reason it is one of the principal markers of Western Oklahoma. The northwestern part of Oklahoma and Southern Kansas carries considerable salt in this formation. Very little salt is reported to the south in the Anadarko Basin, but many thin lime shells are found.

The Garber, lying above the Wellington, is a series of red clay shales, red sandy shales and red sandstones. The formation outcrops near Garber, in Garfield County, and takes its name from that town. This formation correlates with the lower Harper as found in Southern Kansas.

The Hennessey is a red clay-shale formation, found exposed near the town of Hennessey, in northern Kingfisher County. The formations above and beneath it consist chiefly of sandstone and for that reason it can easily be determined. The Hennessey is different from other red shales in the lower part of the Enid, in that it is commonly blocky and breaky with thin streaks or bands of different colors. The Hennessey is correlated with the Harper of Southern Kansas.

Above the Hennessey is a sandstone formation called the Duncan. It is correlated with the upper part of the Harper in Southern Kansas. The Duncan outcrops near the circumference of the Anadarko Basin. This formation is generally made up of soft, friable or shaly red sandstone.

The top of the Duncan is sometimes difficult to determine from the base of the Chickasha, which is composed of gypsiferous red clay-shales and thin sandstones. Near the Anadarko Basin this horizon consists of sandstones and shales rather purple in color, which gradually change to the north into brick-red shales. This formation correlates with the Flowerpot shales of Southern Kansas.

Woodward Group

The Blaine is a zone of anhydrites and red shales with a few thin dolomites, which becomes gypsum when exposed. This formation outcrops in several places in Northwestern Oklahoma, near the Gypsum Hills of Woods and adjoining counties. Much surface work is based upon this gyp horizon. Some do not include the Blaine as a part of the Woodward, but as a separate formation of any group.

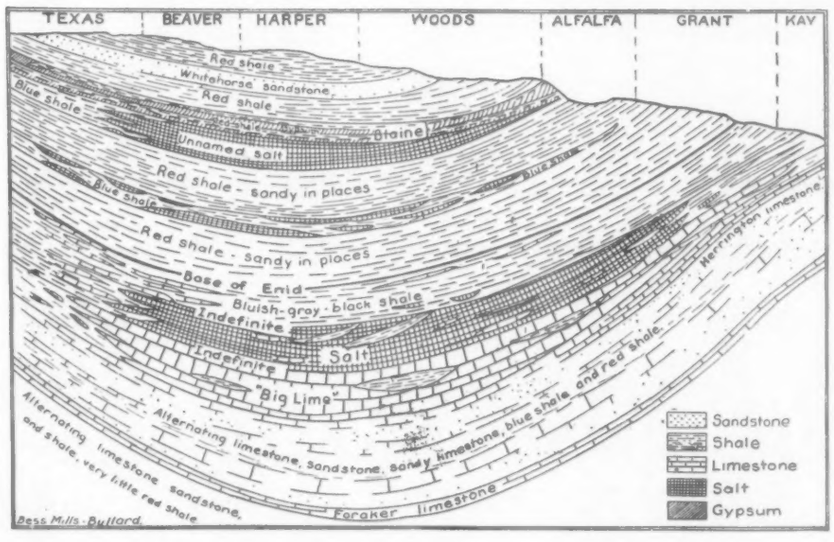
The Wooward formations add little information since few wells in Western Oklahoma have found any formations of great thickness.

Some red shale is logged just above the Blaine, which is named the Dog Creek shales. Above these shales comes a series of sandstones called the Whitehorse sandstones. This formation is about 175 feet thick, as found in the wells of the Sayre field, Beckham County. Above this formation lies the Day Creek dolomite, which is succeeded by the Cloud Chief gypsum, which is found in scattered localities along the Canadian River in the form of red sandy shale deposits. These are thought to be correlative of the Hackberry shale of Kansas. The typical type is to be found in Washita County, Oklahoma, and north and west across Custer, Dewey, Woodward, Ellis, Harper and Beaver Counties, Oklahoma. Near Weatherford, in southeastern Custer County, the Cloud Chief gypsums lie a short distance above the Day Creek, but there are few localities in which both formations are exposed, and for this reason many consider the Day Creek as the basal part of the Cloud Chief.

Above this formation are a few Triassic, Cretaceous and Tertiary rocks of later periods, with the exception of where they have been eroded away along stream banks and the like.

The soft shales and sandstones making up the Woodward, offer a different drilling problem from those found in the eastern fields of Oklahoma. They are very cavey, while the cavey materials of Eastern Oklahoma, particularly in the Seminole district, are not found until a much lower depth. In Western Oklahoma after penetrating these soft horizons trouble with caves is practically absent.

There is much more to learn of the formations in Western Oklahoma. The present drilling wells will offer a basis for much study, and there may be several revisions made of the present idea.



Diagrammatic cross-section extending eastward from Texas County to Kay County, Oklahoma

Gulf Coast Has Record Year Settled Output

By JACK LOGAN
Staff Representative

ALTHOUGH the production in the Gulf Coast was less in 1928 than in 1927, the peak of all years in Texas-Louisiana Coastal history, the 1928 total ranks second only to that peak year. It is considerably higher than the 1926 total, which in its time established a new high record for Coastal production. In round numbers showing barrels of production, the totals for the past four years were as follows:

Year	Total Gulf Coast	Spindle Top
1925	34,552,000	429,000
1926	45,607,000	13,370,000
1927	54,533,000	21,584,000
1928	47,331,000	14,021,000

The figures on Spindle Top are included, inasmuch as that field was in a stage of flush production in 1927, and was responsible for the record production that year. In 1928 Spindle Top produced practically the same as in 1926, but the Gulf Coast as a whole produced nearly 2,000,000 barrels more in 1928 than in 1926. In the production figures, then, is reflected the fact that the natural decline in the old fields is being not merely offset but outweighed by increased production through development in new fields.

Geophysical Work

A great deal of effort on the part of the major companies was directed in 1928 toward continuation of geophysical exploration for new prospective oil fields, resulting in the discovery of 12 salt domes or structures in the Texas Gulf Coast and 22 in Coastal Louisiana. This brings the total number of geophysical discoveries in the Gulf Coast, since the introduction of the new method of prospecting in 1924, to approximately 60.

Many of these domes and structures have not yet been drilled upon, but in 1928, while the search was in progress for new domes, those which had already been found were not forgotten; and the drilling that was done on them resulted in establishing commercial production in several cases, and in other instances, while not actually locating oil, at least proved the existence of domes.

The outstanding achievements on the geophysically found domes included the opening of Sugarland, Fort Bend County, Texas, and the Sorrento field, Ascension Parish, Louisiana. Both appear to be first class Coastal fields. The former was found by torsion balance and the latter by seismograph.

Sugarland

Sugarland exemplifies the highest degree of success in locating oil by means of geophysical instruments. The first test drilled there (by Humble Oil & Refining Company, which virtually controls the area) was an 800-barrel flowing well when completed, March 26, 1928, and is still producing; and out of eight tests which Humble Oil & Refining Company has completed there, seven came in as oil producers and the other as a gas well. With six wells now on production, the field has an average daily yield of around 7500 barrels. By the end of 1928 the field

Gulf Coast Production by Fields

(Drilling statistics appear elsewhere in this issue)

Field—	1928	1927	All Time Through 1928
Allen Dome	17,450	.....	17,450
Barbers Hill	322,950	68,550	1,440,500
Batson	498,550	532,850	34,274,400
Big Creek	834,250	1,223,450	3,225,700
Blue Ridge	2,302,300	1,122,400	5,935,700
Boling	828,400	791,250	2,750,650
Damon Mound	363,150	336,650	7,309,800
Fannett	4,000	.....	4,000
Goose Creek	2,551,950	2,979,450	64,257,400
High Island	170,450	*	*
Hull	4,167,200	6,220,550	61,064,750
Humble	683,150	1,158,300	100,107,450
Markham	109,200	*	3,155,200
Moore's Field	45,700	21,150	143,150
Nash	490,750	394,650	1,092,500
N. Dayton	210,000	*	913,000
Orange	1,466,100	1,831,200	27,877,300
Pierce Junction	3,980,400	3,101,300	11,325,700
Raccoon Bend	97,800	1,250	99,050
Refugio	56,600	.....	56,600
Saratoga	383,400	405,050	25,187,450
Sour Lake	1,235,350	1,634,700	72,358,050
South Liberty	1,437,650	1,152,750	9,258,400
Spindle Top	14,021,300	21,584,800	97,757,100
Sugarland	389,750	.....	389,750
West Columbia	2,946,200	3,535,150	68,637,350
Others	.....	947,800	2,237,800
Total	39,614,000	49,043,250	600,876,200
SOUTH LOUISIANA			
Anse La Butte	16,900	4,850	615,750
Bayou Bouillon	217,600	.....	217,600
East Hackberry	1,176,600	43,000	1,219,600
Eagerly	422,850	494,600	7,444,450
Jennings	373,900	415,250	39,665,150
Lockport	1,489,450	2,014,450	5,456,900
Loreauville	4,000	16,800	20,800
Starks Dome	186,000	207,300	393,300
Sorrento	295,000	.....	295,000
Sulphur	932,000	29,500	961,500
Sweet Lake	659,300	76,500	801,500
Vinton	1,642,500	1,897,500	31,130,000
Welsh	30,300	10,200	329,500
Others	283,100	218,650	583,750
Total	7,716700	5,428,600	89,134,800
TOTAL GULF COAST	47,330,700	54,471,850	690,011,000

97% CORE RECOVERY WITH A HUGHES SOFT FORMATION CORE BIT

The photograph shows a 6-1/8" Hughes Soft Formation Core Bit ready to go into the hole on Gulf Production Company's, J. M. Moore, No. 17 at Orchard, Texas. In making 71 feet of hole, 69 feet of core was taken.

The men in the picture are: E. H. Clemons, T. R. Walger, H. F. Walger, D. A. Suhr, and J. C. Hammermiller.

Sold by Supply Stores Everywhere

HUGHES TOOL COMPANY

Branch Plants
Los Angeles, Calif.
Oklahoma City, Okla.

MAIN OFFICE AND PLANT
HOUSTON, TEXAS

Export Office
New York City, N.Y.

already had a total of 389,750 barrels of production to its credit. At Sugarland there is ostensibly a very deep dome, and the success in the drilling there has served to lend importance to any indications of similar conditions in the entire Coastal country. Incidentally, the use of the torsion balance has been encouraged in looking for exceptionally deep domes, for it was that instrument which gave the first indications of a dome at Sugarland, after other geophysical instruments had failed to indicate it.

Sorrento

Sorrento is a particularly interesting field, being the first that has been opened in the Gulf Coast east of the Mississippi River. The development of profitable production there has dispelled the former generally prevalent theory that the formations in eastern Louisiana were not such as to produce oil; and has resulted in increased interest in the search for new domes in the far eastern end of Louisiana and beyond the Mississippi, indicating the possibility of production in Mississippi and even on through Florida. The discovery well at Sorrento was Gulf Refining Company's United Lands Company 4, the fourth test drilled there. It came in February 1, 1928, as a 4500-barrel well, making 26 gravity oil from the cap rock at 1670 feet. Gulf Refining Company has under lease most of the acreage on and around the dome. In 1928 the company drilled eight tests there, of which four were failures, while the other four were producers, with a combined initial production of 13,500 barrels.

Texas Coast

Aside from the opening of the Sorrento and Sugarland fields, there were some important results from drilling on other geophysically indicated domes. In the Texas Gulf Coast the first commercial producer was completed at Fannett, Jefferson County, and the first oil well was completed also at Long Point, Fort Bend County. Both fields are controlled by Gulf Production Company. Fannett was discovered by seismograph in 1925, and while one well made a little oil in January, 1927, it was not until September, 1928, that the first commercial producer was completed. On December 16, 1928, Gulf Production Company completed Wolf 13 as the first producer at Long Point; it was the 52nd test drilled there. It was completed pumping 50 barrels of 15 gravity oil from cap rock at 600 feet.

Five Louisiana Domes

Among the geophysically discovered domes of Coastal Louisiana, there were five on which the drilling of 1928 first proved the existence of the dome. The salt or cap rock was found at Black Bayou, Cameron Parish, and at White Castle, Iberville Parish, by the Shell Petroleum Corporation; at South Calcasieu Lake, 14 miles south of East Hackberry, Cameron Parish, and on the Vermilion Bay prospect, Iberia Parish, by the Louisiana Land & Exploration Company; and at Bayou Blue, Iberville Parish, by the Standard Oil Company of Louisiana. The discovery well was completed at East Hackberry (Kelso Bayou) in November of 1927, but most of the development of the field was during 1928. Around 50 tests have been completed there, among which about 50 per cent. were producers. By the end of 1928 the field had to its credit 1,219,600 barrels total production, all of it having been produced in 1928, with the exception of 43,000 barrels.

Besides the development on the geophysically discovered domes there were important developments in both Louisiana and Texas in other areas. In Coastal Louisiana the Rycade Oil Corporation made the discovery of the first commercial production at Bayou Bouillon, an old known dome, and from the completion of the discovery well, March 11, 1928, to the end fo the year produced 217,500 barrels of oil. The old Hackberry dome, several miles west of East Hackberry, was also opened for commercial production in 1928—in the latter part of the year. This is one of the oldest known domes in the Gulf Coast. It has not been long since the completion of the dome's first producer, and the field's possibilities are still problematical. The development was interesting also in two other South Louisiana fields during 1928. Although the first oil well was completed December 24, 1926, at Sulphur dome, Calcasieu Parish, it was not until the close of 1927 that the field's production was of consequence, and the operations for oil did not really get under way until 1928. In 1927 the field produce 29,500 barrels of oil, and in 1928, with several tests drilling all the time, it produced 932,000 barrels.

Austin and Washington Counties

In the Texas Coastal country there were also some important developments outside of the geophysically discovered areas. Foremost among these were the discovery of worthwhile production from a new deeper pay at Raccoon Bend, Austin County, and the opening of what promises to be an important field at Clay Creek, 12 miles north of Brenham, Washington County. Both of these fields are along the inner edge of the Gulf Coast region proper; and just as the Sorrento field opens up possibilities for many new fields in the far eastern end of the Gulf Coast, so the Raccoon Bend and Clay Creek fields indicate important potentialities of the entire upper edge of the Coastal country.

The Sun Oil Company discovered the Clay Creek field on the basis of surface geology, briefly checking it by seismograph, and is the sole operator there. The discovery well was completed October 10, 1928, making 65 barrels of 25 gravity oil at 1140-54 feet; and before the year had ended a second well came in flowing 210 barrels per hour at 970-1392 feet, making the same gravity oil. The broken sand from which the Clay Creek production is coming is of the Cook Mountain age, in which large oil production heretofore have never been found. Consequently, the possibilities of that formation have been enhanced.

While a number of gas wells and several small oil wells had previously been completed at Raccoon Bend around 1000 feet, it was not until the latter part of January, 1928, that the present deep development began with the completion by Humble Oil & Refining Company of Gotosky 2 as a 500-barrel well at 3279 feet. Several other wells, with initial production as high as 4000 barrels, were completed during the remainder of the year, and the field's production in 1928 was 97,800 barrels.

Barbers Hill

The old Barbers Hill field, Chambers County, noted principally in the past for the large number of dry holes drilled there in the quarter of a century following its discovery soon after Spindle Top came in, took on a new aspect in October, 1928, when the Mills Bennett Production Company completed a 5000-barrel well from a new sand at 5274 feet total depth. Since then another big well has been completed in the same sand, and late in January, 1929, the opposite side of the dome, the southwest flank was opened for large production one mile deep by the Yount-Lee Oil Company.

Other developments of note in the Texas Gulf Coast during 1928 included the discovery of the first commercial oil production at Refugio, which heretofore has been solely a gas field. Good oil wells were completed both in the north and south ends of the field, and as a consequence other gas areas in the Gulf Coast are looked upon more favorably as possible sources of oil production.

South Liberty registered more than usual activity the latter part of the year, following the discovery of a shallow pay around 900 feet.

Among the older fields of the Texas Gulf Coast, outside of South Liberty and Barbers Hill, those showing increased activity in 1928 as compared with the previous year, included Blue Ridge, Boling, High Island, Nash Dome, and Pierce Junction; the number of completions being greater in each case and resulting in a higher production for 1928 than for 1927.

In South Louisiana there was not any outside development in any of the older fields. In fact the activity in those fields declined, and the production declined. The increase in South Louisiana production from 5,428,600 barrels in 1927 to 7,716,700 barrels in 1928 was due altogether to activity in the new fields, and was effected in spite of the decreased output of the old fields.

The productiveness of the seven fields comprising the East Central Texas fault district is illustrated by the accompanying table:

Field—	Date Discovered	No. proven acres	No. producing wells	Crude yield per acre	Total production to Jan. 1, 1929
Corsicana-Powell	1-7-23	2,650	674	37,696	99,895,522
Mexia	11-25-20	3,720	422	22,803	84,825,370
Wortham	11-22-24	715	166	29,956	21,418,312
Richland	Dec. 1923	240	54	26,413	6,339,226
Currie	Oct. 1921	375	37	15,989	5,995,788
Nigger Creek	7-8-26	170	38	16,277	2,767,093
Cedar Creek	8-24-27	25	13	9,346	233,745
Total		7,895	1,404	28,053	221,475,056

Texas Fault Zone Field Work At Low Ebb in 1928

By H. H. KING
Staff Representative

THE seven separate fields producing from the Woodbine sand horizon in the East Central Texas fault zone boosted their combined total crude yield to 221,475,056 barrels by contributing a total of 7,877,826 barrels during 1928, or approximately 4,339,917 barrels less than the output credited to the district during the previous year. Except for the winding up of the development program in the Cedar Creek pool, which is the smallest and youngest of the seven, with 13 pumpers, the activity in the various fields during 1928 was confined to fighting water encroachment and maintaining the wells on the pump until production in commercial quantities ceases.

All seven fields are considered to be defined on all sides, with every inside location worth drilling taken care of, and the only bright spot for the future is pinned on the prospects of the Trinity sand, or other lower horizons being proven for production below the one-mile level. The Trinity sand has been proven for commercial gas with a light spray of oil on the west side of the Mexia field proper, but a thorough test of the pay was prevented by the junking of the hole, while a nearby test drilled in 1928 by C. F. Lytle and associates encountered water bearing formations at the expected level, and ceased operations at 6002 feet in October, but will go 500 feet deeper shortly.

Heavy shrinkage in crude production being recorded each year by the East Central Texas fault zone marks the passing of several of the most popular fields in the country—Mexia and Corsicana-Powell. Their popularity was won through the development of big flush production in quick order, with no dry holes of any appreciable number on the structure proper, while most operators enjoyed a quick turnover on their development costs. Rapid drilling time made by rotary drillers built these fields up into the major production class on short notice when the trend of production became established.

Corsicana-Powell

The Corsicana-Powell field fell short 104,478 barrels of breaking into the 100,000,000 barrel total crude recovery class during 1928, but earned this distinction during the first one-half of January of this year. This field was opened January 7, 1923, and is credited with having produced 99,895,522 barrels up to the close of 1928, with a small percentage of the oil coming from shallow sands developed in the field proper after the flush had been taken off the Woodbine sand horizon at 2800-3000 feet. However, these figures do not include the oil produced by the original Corsicana shallow field, located nearer the City of Corsicana. Total crude production in the Corsicana-Powell field in 1928 was 3,949,241 barrels, as compared to 5,839,114 barrels in 1927, and 10,022,328 barrels in 1926.

Mexia

The Mexia field, which is the oldest of the seven areas producing from the Woodbine horizon, having been discovered in November, 1920, is credited with having

(Continued on page 98)

The total crude production of the seven oil fields in the East Central Texas fault region from date of discovery to the close of 1928 *is listed below, with the individual field output for* 1928 *shown by months:*

Prior to	Corsicana -Powell	Mexia	Wortham	Richland	Currie	Nigger Creek	Cedar Creek	Total Production
January 1, 1928	95,946,281	82,307,625	20,770,832	6,141,386	5,799,573	2,545,248	86,285	213,597,230
January, 1928	373,130	235,435	62,310	16,370	16,245	23,730	20,215	747,435
February, 1928	349,865	217,195	59,240	16,200	17,100	24,345	13,465	697,410
March, 1928	374,245	232,040	65,650	17,725	16,400	23,925	19,495	749,480
April, 1928	342,460	218,385	59,030	16,230	15,520	22,380	16,385	690,390
May, 1928	347,880	222,150	59,160	20,455	15,790	19,900	18,240	703,575
June, 1928	323,250	209,020	52,390	16,555	13,735	17,390	13,310	645,650
July, 1928	322,280	210,035	52,690	17,710	17,100	16,660	11,145	647,620
August, 1928	332,495	210,410	51,645	16,335	20,050	17,360	8,985	657,280
September, 1928	297,130	198,015	47,715	15,230	17,345	14,950	6,955	597,340
October, 1928	312,150	197,280	46,865	15,950	14,830	16,700	6,995	610,770
November, 1928	287,260	180,860	45,630	14,365	15,725	12,980	5,615	562,435
December, 1928	287,096	186,920	45,155	14,715	16,375	11,525	6,655	568,441
Total for 1928	3,949,241	2,517,745	647,480	197,840	196,215	221,845	147,460	7,877,826
Grand total	99,895,522	84,825,370	21,418,312	6,339,226	5,995,788	2,767,093	233,745	221,475,056

Field Activity at High Rate During January

Unusual success accompanied drilling operations resulting in sharp gains in new production

By H. J. STRUTH
Staff Economist

JANUARY will undoubtedly prove to have been the peak month of 1929 as far as field operations are concerned. Apparently the momentum attained during the closing months of 1928 reached its climax during January, when 1221 new producing oil wells were completed, having a combined initial production of 746,564 barrels. This represented a gain of 240 wells over the preceding month and a gain of 316,695 barrels in initial output. Compared to the total number of wells drilled, the number of producers completed showed a high rate of success—not only in percentage of productive completions, but also in productivity of successful completions. For example, during January, the average initial production per well completed was 611 barrels, as compared with 438 barrels during December.

UNITED STATES PRODUCTION

The following is the gross production of crude oil in the United States during January, as compiled by the American Petroleum Institute. There is a slight difference between the figures shown below as compared with those shown on pages 192-193, showing the production by individual fields: the difference being that the A. P. I. figures are in round numbers for the sake of clearness and convenience.

State	Average Daily January	Production Total January	Average Daily December
Oklahoma	722,550	22,399,050	710,600
Kansas	97,150	3,011,650	97,200
Texas (Outside Gulf Coast)	632,500	19,607,500	603,700
Gulf Coast	136,750	4,239,250	135,050
North Louisiana ..	35,650	1,105,150	37,300
Arkansas	78,600	2,436,600	81,350
Eastern States	111,950	3,470,450	113,450
Rocky Mountain ..	73,200	2,269,200	74,600
California	747,250	23,164,750	697,850
Total	2,635,600	81,703,600	2,551,100

Overproduction reached a critical point during January which resulted in a general downward revision in the crude oil market. This drastic action is expected to have a decided effect upon drilling activities and therefore makes it logical to believe that January will prove to have been the peak month of field activity during this year.

The effect of a lower crude market structure will undoubtedly force a realization among operators in all prolific fields that it has become imperative to resort to co-operative proration if the industry expects to emerge from its era of profitless prosperity.

Oklahoma, Texas and California were largely responsible for the high rate of field activity which prevailed during January. In Oklahoma there were fewer producing oil wells completed during the month, but there was a sharp increase in initial production. Although 298 wells were completed, as compared with 273 in December, producing oil wells aggregated 155 as compared with 159 in December. These wells were credited with an initial production of 99,546 barrels, while in December the initial was 77,505 barrels, an increase of 22,041 barrels of new 24 hour production. Texas registered a gain in completions and a large increase in the number of producing oil wells completed, while the initial output was nearly double that recorded in December. In Texas 746 wells were completed during January as compared with 550 in December, while the number of producing oil wells aggregated 440 against 311 in December. Initial production for January was 449,670 barrels against 242,176 barrels in December. California completed 95 wells during January, compared with 64 in December, while the number of producing oil wells aggregated 89 against 59 in December. The success of California operations is revealed by the fact that initial production was 173,080 barrels as compared with 95,575 barrels during the preceding month.

Production Rises Sharply

As a result of the success which accompanied field operations during January, the total output of petroleum assumed a sharp upward trend, reaching a daily average for the month of 2,635,600 barrels, as compared with 2,551,000 barrels in December. During the final week of January the daily average output of crude in the United States had reached the stupendous total of 2,680,050 barrels. On the basis of the daily averages reported weekly by by the American Petroleum Institute, the total production of crude for January is calculated at approximately 81,703,600 barrels. This is a gain of 2,408,050 barrels over December. Gains in production were recorded for Oklahoma, Texas, Gulf Coast and California, while Kansas, North Louisiana, Arkansas, Eastern States and the Rocky Mountain area registered slight declines. On the whole, the general petroleum situation was decidedly unsatisfactory and the month closed with practically all grades of crude in the prolific fields quoted at lower market prices.

Wildcatting was not as successful during January as in December, which is revealed in a summary of wildcat operations for the entire United States.

West Texas

The West Texas district's principal oil producing areas were overlooked when crude purchasing agencies made a general reduction in crude prices during the last week in January, but this was due to the former having a posted price of 65 cents for oil averaging 29 gravity, or much lower in proportion to the postings on similar grades of oil in the Mid-Continent district proper.

Drilling activity in the West Texas district as a whole registered a decline in Jenuary because of the lease owners in the Hendrick, Yates and Howard-Glasscock County fields having taken care of the bulk of the necessary offsets required under the terms of the proration plans. The slump was particularly noticeable in the Hendrick field proper, as most of the new work is concentrated on the south end of the structure, which has been about defined on all sides except to the south. New developments in the Llano-Daugherty and O'Brien pools, Winkler County, have been held in check because of failures and presence of water in recent completions. However, the trend of production in the latter pool is now taking a direct course towards the south end of the Hendrick field, with a three-mile stretch in between.

The peak in drilling activity in the

Don't let the *Weather* Man be *your* Production Man in 1929

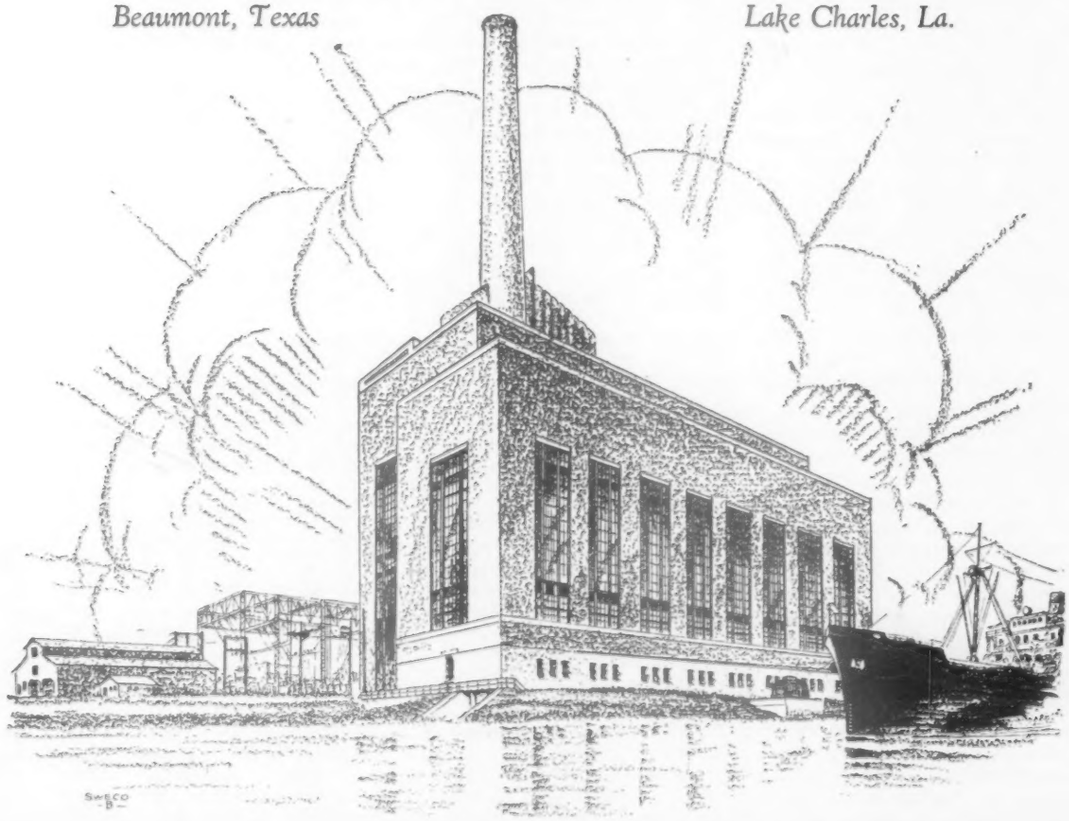
Cold weather does *not* cut down production on the "electrified" well. Hot or cold, wet or dry—Electric Power performs dependably, efficiently, economically.

DEPENDABLE GULF STATES UTILITIES CO. PUBLIC SERVICE

Gulf States Utilities Company

and WESTERN PUBLIC SERVICE CO.

Beaumont, Texas *Lake Charles, La.*



Under executive management of STONE & WEBSTER, INC.

original deep pay area in the Howard-Glasscock County field has been passed, but field work in the Settles pool, located to the west, is due for an increase in activity by reason of the 2200-foot pay having been extended during January more than a mile to the southwest by the Plymouth Oil Company's Kloh 1, which pumped 1200 barrels oil on initial gauge at 2297 feet.

Field work in Crane, Upton and Crockett Counties, which have set the pace on drilling in recent years, is now at a standstill, except for a trio of wells being drilled on proven locations by Gulf Production Company on the McElroy ranch, Crane County. Wildcat activity in the West Texas district has not suffered from the general movement against the exploration of prospective oil areas, and from three to six new tests are started weekly.

The Central West Texas district, centering around Breckenridge and Brownwood, lagged behind on new production during January because of absence of any new pool discoveries of any consequence in recent months, while a heavy quota of dry holes was taken in Brown, Coleman, Callahan and Eastland Counties during the month by reason of high percentage of field work being on wildcat and semi-wildcat locations.

North Texas

In the North Texas district, the old K-M-A field in Southern Wichita County staged a temporary comeback with new production when operators on the Kemp & Kemper, Taylor and Hodge lands scored a number of wells ranging from 300 to 500 barrels daily on the swab from the 1400-foot sand. This area had previously been placed on production from shallower horizons, and the lower pay caused a number of shallow tests to be drilled deeper. The Waggoner ranch in Wilbarger County registered several important extensions during January through the efforts of the Easter Oil Company and Laalaph Oil Company, but drilling in this county is on the decline. Recent extensions to old pools in Archer County and north Young County accounted for a slight gain in developments during January.

Oklahoma

Although fewer completions were registered during January, 1929, than during December, initial production of Oklahoma for the second consecutive month showed a substantial increase. New production during January from 120 completions was 92,568 barrels, an average of 771 barrels per well. During December there were 159 successful oil completions, which had a combined flush recovery of 77,505 barrels, an average of 487 barrels.

Kansas

During January Kansas showed a decline in both activity and new production. There were 38 completions made, of which 17 were oil wells, which had a combined initial production of 1637 barrels, three were gas wells and 18 failures.

Butler County had 860 barrels of new production, or half of the state's total. This output came from six wells. Greenwood County was the most active, having 12 completions, which were made up of six producers and six failures.

California

Santa Fe Springs, after showing no definite change up to January 30, again jumped to the front on the last day of the month with the announcement that a new deep zone had been discovered at 6305 feet. Cores revealed a very good oil sand and indications were that the new sand would be even more productive than the Buckbee zone above. The zone was found near the center of the field, indicating that edge wells which failed to find the Buckbee zone might pick up the new sand as a last resort to retrieve losses incurred in earlier drilling.

The field showed a remarkably steady climb during the month, coming to a halt with a production of 185,000 barrels, of which the deep zones were producing 160,000 barrels. More than 50 wells were completed during the month, the average initial production having been well above 3000 barrels. At the end of the month the average production was about 2400 barrels.

Drilling during the month definitely defined the producing limits of the Buckbee zone as smaller than the Meyer sand. The Intermediate zone also fell short of expectations, proving to be much smaller than expected. With a thickness of only 200 feet, the Buckbee zone is losing gas pressure, but the average initial production was fairly high, despite this failing. Several wells died from encroaching sand and water. In many instances it was possible to trace the water to the zone itself.

Developments during the month indicated that the peak from the Buckbee would not greatly exceed 200,000 barrels. The decline may be slower than expected, however. The discovery of deeper zones changed the complexion of the field and promised to add months of uncertainty. If the new zone proves as productive as the Meyer, field production may reach 300,000 barrels by the summer months.

Long Beach showed a steady decline during the month, but the drop was not enough to relieve the pressure caused by production elsewhere. The decline from the wells are slower than anticipated and the field will produce more than 150,000 barrels for many months to come.

Lawndale was the newest sensation. Within a month, more than 50 additional locations were made and upward of 40 wells were drilling at the end of the month. It will require only a few more weeks to tell whether the field will become a major factor in California production.

It required the completion of only two wells in the Elwood field to bring production up to 24,000 barrels. With a total of only six wells, this record is hard to beat. The oil is very light and the field promises to become one of the state's most important high gravity producers. Ideally located, this field is regarded as one of the most important discoveries of a decade.

UNITED STATES FIELD STATISTICS

Following are the completions, showing oil wells, gas wells, failures and initial production of crude by states for the Month of January, as compiled by THE OIL WEEKLY:

State—	Completions	Oil Wells	Gas Wells	Failures	Initial Prod.
Arkansas	25	16	3	6	5,066
California	95	89	..	6	173,080
Illinois	17	11	1	5	363
Indiana	20	7	2	11	131
Kansas	53	24	7	22	2,977
Kentucky	112	63	4	45	1,692
Louisiana	62	15	21	26	5,201
Michigan	49	27	6	16	5,390
New York	54	54	..	..	177
Ohio	214	78	90	46	1,689
Oklahoma	298	155	29	111	99,546
Pennsylvania	245	225	9	11	1,392
Texas	746	440	41	265	449,670
West Virginia	78	17	49	12	190
Total	2,068	1,221	262	582	746,564

PAST TWELVE MONTHS

The record for the past twelve months is an interesting study for comparative purposes, the following table giving the field statistics for all States in the Union:

Month—	Completions	Producers	Gas Wells	Failures	Initial Prod.
January, 1928	1,203	640	179	384	396,150
February	1,376	729	197	450	336,319
March	1,693	884	283	526	555,613
April	1,486	772	216	498	397,825
May	1,495	770	186	539	413,378
June	1,545	896	136	513	457,662
July	1,534	882	189	463	522,969
August	1,730	974	217	539	969,742
September	1,809	1,050	223	536	976,494
October	1,729	979	237	513	566.766
November	2,082	1,178	306	598	438,228
December	1,742	981	250	511	429,869
January 1929	2,068	1,221	262	582	746,564
Total, 1928	19,424	10,735	2,619	6,070	6,461,015
Total, 1927	21,801	13,045	2,554	6,202	4,487,583

Note—Rocky Mountain data omitted.

Sunday *Shut-Down* Would Make Ideal Curtailment Plan

Prairie and Barnsdall take lead in movement finding favor in Mid-Continent

By GRADY TRIPLETT

TULSA.—Sunday with wells shut down on producing leases is taking hold in Oklahoma and Kansas as a solution to the over-production of oil, where other efforts at restriction have never found favor. So far it is an experiment, but the attitude of oil producers of all classes is such that indications point to its adoption of a scale that will bring desirable results.

Two concerns, Prairie Oil & Gas Company and Barnsdall Corporation tried the plan February 17. Prairie Oil & Gas Company closed down its producing wells in the Greater Seminole area and at Burbank. Barnsdall Corporation put it in effect in leases of the two states. For February 24 Sinclair Oil & Gas Company, Phillips Petroleum Company, Indian Territory Illuminating Oil Company and T. B. Slick will adopt the plan as a further test. Most of these concerns will apply the shut-down to Seminole; some will include other territory.

Gypsy Oil Company has the plan under consideration and favorable action is expected. Carter Oil Company is studying the plan, with the view of adopting it, provided it seems plausible. Many other producers have the plan under consideration but have made no statements to that effect.

Although trial of the plan is recent, it was suggested about one year ago by T. B. Slick. Recently agitation in its favor found producers responsive in a way that has not been true of other efforts to curtail oil production. Popularity of this movement is difficult to explain, in the light of many past efforts that were never universally popular. The following statement by Dana H. Kelsey, vice-president of the Prairie Oil & Gas Company, gives information on the method and the attitude of those who are adopting it:

"During the period of the present Seminole curtailment we wish you to shut down all possible operations on each Sunday, using this method as far as possible to cut your production to the amounts requested by the umpire We appreciate that there will, of necessity, be some work that must be done on Sunday, which will require some of your men to be on duty, but we desire that an earnest effort be made to shut down all plants and operations as far as practicable, thereby producing as little oil as possible on Sundays and giving such regular men as can be relieved the day to spend with their families

"Please also temporarily conduct a similar experiment on our Burbank properties by shutting down on Sundays."

This order was passed to John A. Wolfe, superintendent of production at Tulsa.

The action of the Prairie Oil & Gas Company at Seminole is to get output down to the figure desired by Ray M. Collins, umpire of the district, who is charged with limiting Oklahoma oil production to 650,000 barrels daily.

Although no statement has been made to that effect, the experiment at Burbank is taken as a move to determine the feasibility of extending the Sunday shut-down movement to older and settled leases.

Air Lift Wells Not Hurt

When the movement in favor of a six-day week for producing leases came up last week, many production engineers were skeptical of its value at Seminole, where most wells are producing by air and gas lift and where many are making water. The engineers feared that a day off pressure would involve building pressures to as high as 1500 pounds Monday morning to force wells to "kick over." But the experiment of February 17 resulted in Seminole wells being brought back to flowing by air or gas lift after pressures of from 350 to 400 pounds had been developed. Wells making substantial amounts of salt water offer another problem, and the disposition of some concerns is to keep such wells flowing at a restricted rate over Sunday.

The plan has many advantages. These are accepted as sufficient to overcome objections. The first advantage is that of reducing the output of crude oil by 14 percent. Such a reduction is possible only with each oil well in the United States off production 52 days of each year. This is a figure which will not be reached, but it is not too much to expect the adoption of Sunday shut-down to bring a reduction of 10 per cent. in crude oil output. That possible 10 per cent., applied to current output in the United States, would reduce daily production by 270,000 barrels.

An item in favor of the move is its legality. Most oil producing states have statutes which make Sunday labor illegal. While these statutes are covered with the dust of scant observance, the legal machinery exists. There is no consideration, however, on the question of gaining adoption of the plan through dragging out musty statutes. A more effective method is at hand. Sufficient concerns in Oklahoma and Kansas now promise to introduce the method that it will gain momentum of its own power. When the workers of one or two leases in a field are given a day of rest over Sunday, workers on adjoining leases will clamor for the privilege. This pressure from the leases toward executive offices is looked upon as sufficient to gain such wide adoption that any other pressure will not be necessary.

So far no move has been made to have the plan apply to drilling wells, most wells are drilled by contract. Under contracts, drilling must proceed at the will of the contractor. Conditions of drilling wells often make a shut down for a day impracticable. Caving holes and other conditions are not always favorable to a halt in drilling. At that, many contractors now halt drilling over Sunday when pipe has been set and conditions of the hole are favorable.

An indirect benefit from the plan is through the consumption of gasoline by men released from work each Sunday. The common activity of these men will involve the operation of their own automobiles. While the amount of gasoline that would thus be used is trivial compared with total consumption, it is still a factor and a favorable one.

A condition which overshadows all other possible benefits from the plan, is the attitude of oil producers toward it within the past 18 months, many methods of curtailing production have been adopted in Oklahoma. It is a matter of common knowledge that results never measured up to what strict adherence would have brought. Failure came because not enough men were satisfied as to the justice of the methods adopted. Contrary to this attitude of distrust in other plans, the attitude toward Sunday as an idle day on the producing lease is one of trust. Oil producers seem satisfied with its fairness and its effectiveness. It is certain to be one of the methods that will come before the four regional committees, just named by the Executive Committee of the American Petroleum Institute to devise a method of curtailing oil production in the United States, Mexico and South America.

BAKER-BURCH
CEMENT FLOAT-SHOE

Manufactured Under Patents

No. 1035674
No. 1491915
No. 1561768
No. 1603447

Other Patents Pending

The above patents together with other patents about to be issued give thorough patent protection on the tool and make it exclusively a Baker product.

No Iron in the Hole When You Drill Out With This Float-Shoe!

The Baker-Burch Cement Float-Shoe is a plain casing shoe with a concrete, guide shaped plug containing a composition ball check valve and seat.

Easier to Drill Out

The cement plug is much easier drilled out than cast iron. With the old type of cast iron float and guide, drilling out was always quite a job because the cement reinforced the cast iron a great deal. It was often so hard to drill out that the vibration wrecked the cement job.

No Iron in the Hole

The well is left free and clear of any iron which would interfere with further drilling and coring operations—especially coring right below the shoe.

Strong Wash-down Action

A strong washing action can be produced because the four holes in the plug act the same as the nozzle on a hose.

Safe and Dependable

The Baker-Burch Cement Float-Shoe will not fracture or shatter while guiding a string of casing to bottom, nor will it crush when set on bottom. The real efficiency of this float-shoe is proven by the hundreds of successful jobs where wells from 6000 to 8000 feet are common.

California Branches:
Coalinga, Bakersfield, Taft, Ventura

BAKER
OIL TOOLS, INC.
Formerly BAKER CASING SHOE CO.
Box L, Huntington Park, Calif.

Export Sales Office:
25 Broadway,
New York City

Mid-Continent Distributors:
B & A SPECIALTY COMPANY

220 E. Brady St.,
Tulsa, Okla.

2301 Commerce St.,
Houston, Texas

A Gulf Publishing Company Publication

The OIL WEEKLY

Member Audit Bureau of Circulations

VOLUME 52, NO. 10

FEBRUARY 22, 1929

Edited Weekly at Houston, Texas

SPENCER W. ROBINSON, EDITOR

TABLE OF CONTENTS

Special Features

Record Demand Not to Absorb Current Crude Output ... 45
By H. J. Struth
Modern Equipment in Roumanian Fields ... 47
By H. E. Cassidy
California Production Rises in Relation to Greater Depths Penetrated ... 51
By Brad Mills
North and Central West Texas Areas Have Quiet Year ... 53
By H. H. King
West Texas Wildcat Effort Nets 13 New Producing Spots ... 56
By H. H. King
Western Oklahoma Has Important Potentialities When Oil Is Needed ... 57
By Warren Baker
Gulf Coast Has Record Year Settled Output ... 60
By Jack Logan
Texas Fault Zone Field Work at Low Ebb in 1928 ... 63
By H. H. King
Field Activity at High Rate During January ... 64
By H. J. Struth
Sunday Shut-Down Would Make Ideal Curtailment Plan ... 67
By Grady Triplett
Committees Organized to Perfect A. P. I. Curtailment Plan ... 77
Mexico Continues Downward Trend—Production and Drilling ... 99
By George Blardone
Western Oklahoma Revealed as Important Reverse ... 109
By Warren Baker
Sedgwick County Revises Potential Importance of Kansas ... 117
By Warren Baker
Restricted Drilling in Mountain Area Because of Market Conditions ... 119
By A. J. Hazlett
Redevelopment of Long Beach Gives California Production Boost ... 127
By Brad Mills
Field Statistics Covering 1928 (Index to Charts and Tables) ... 133
Summary of Field Operations for January, 1929 ... 192

Regular Departments

Advertisers Index ... 226
Markets-Production-Crude Prices ... 71
United States Production Estimates ... 73
Crude Oil Price Quotations ... 82
Completions for Past Week in All U. S. Fields ... 95
Permits Granted for New Wells ... 100
Wildcat Drilling Reports from All Important Areas ... 105
News from California Fields ... 89
North and West Texas Field Notes ... 86
Gulf Coast Field Development Notes ... 92
Oklahoma-Kansas Field Notes ... 81
Louisiana-Arkansas News Notes ... 96
Personal Mention—Men You Know ... 95
New Equipment, Catalogs, Bulletins, Books ... 221
Squeaks from the Bull Wheel ... 224

Copyright, 1929

Published Weekly
by
GULF PUBLISHING COMPANY

OFFICE OF PUBLICATION
3301 Buffalo Drive, Houston, Texas

R. L. DUDLEY, *President*
A. L. BURNS, *Gen'l Manager*
SPENCER W. ROBINSON, *Editorial Director*
J. KENT RIDLEY, *Managing Editor*

NEW YORK: Room 408-409, 250 Park Avenue, R. P. Swinsky, Manager.

PITTSBURGH: 510 Park Bldg., W. W. Pigue, Manager.

CHICAGO: Room 520, 624 S. Michigan Ave., O. R. Waller, Manager.

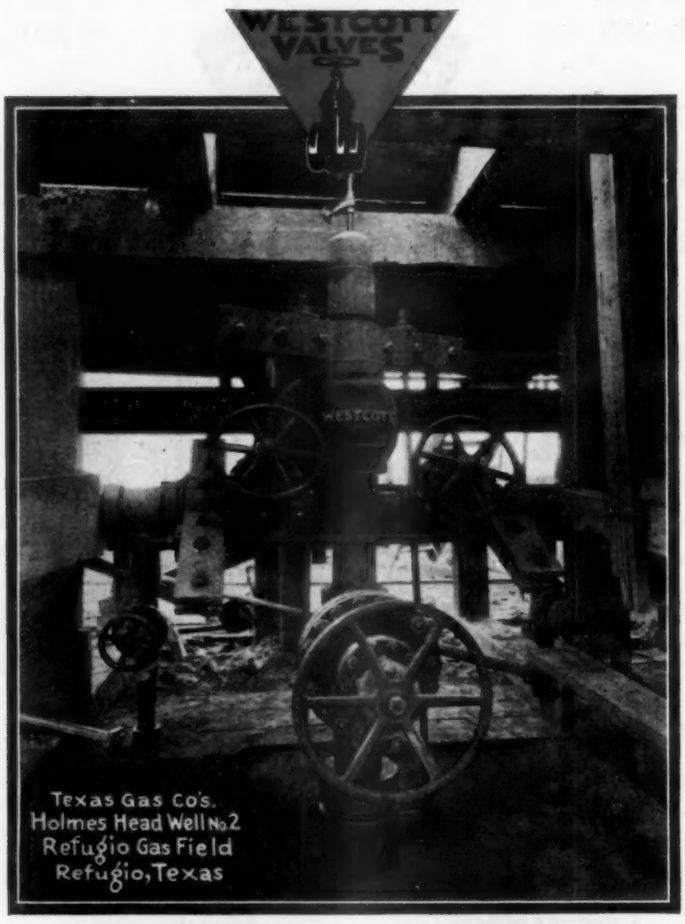
LOS ANGELES: 416-417 Haas Bldg., Wm. V. Gross, Manager.

TULSA: 913-916 Hunt Bldg., J. F. Carter, Jr., Manager.

FORT WORTH: 203 W. T. Waggoner Bldg., H. H. King, Manager.

Issued Friday of each week. Single copies 10 cents. Subscription price: Domestic $1.00 a year, Foreign $2.00 a year. Subscription restricted to those engaged in the producing and pipe line branches of the oil business or the manufacture and distribution of oil field supplies. Advertising rates on application.

A CHRISTMAS TREE WESTCOTT EQUIPPED



LONG LIFE

When assembling a Christmas Tree, if Westcott Valves are used there need be no apprehension in case the well comes in at far greater pressure than expected, as all Westcott Drilling Gate Valves are tested to twice their rated working pressure. This assures permanence.

"If CONTINENTAL Sells It, There Is No Better"

THE CONTINENTAL SUPPLY COMPANY

General Offices: St. Louis

Export Office: 74 Trinity Court, New York

London Office: 316-317 Dashwood House, Old Broad St., E. C. 2

THE CONTINENTAL SUPPLY COMPANY, Ltd.

411 Lancaster Building, Calgary, Alberta, Canada

CONTINENTAL

Say you saw it in The OIL WEEKLY

Markets--Production--Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

First Production Decline of Year Is Hopeful Sign

A DECLINE of 18,650 barrels in national crude production last week lends support to the belief that the industry is seriously determined to carry out recently adopted resolutions to curb excessive production. While the size of last week's decline is of no significance, the fact that there was any decline at all proves that forces are finally at work and are beginning to demonstrate that voluntary agreement can produce the desired results.

Oklahoma's production declined 20,150 barrels at a time when field conditions would have made it less difficult to score a considerable gain. This sudden turn in Oklahoma is concrete evidence that plans recently promulgated there are beginning to exert some influence. Texas also registered a decline amounting in all to 6,200 barrels, showing that operators there are also determined to improve their market situation. California on the other hand registered a gain of 8,200 barrels, practically all of which is credited to Santa Fe Springs.

While nothing definite has been done in California to curb the growing surplus of both light and heavy crude, it is believed that some action will soon be taken, particularly in the Santa Fe Springs area, that may aid the situation there.

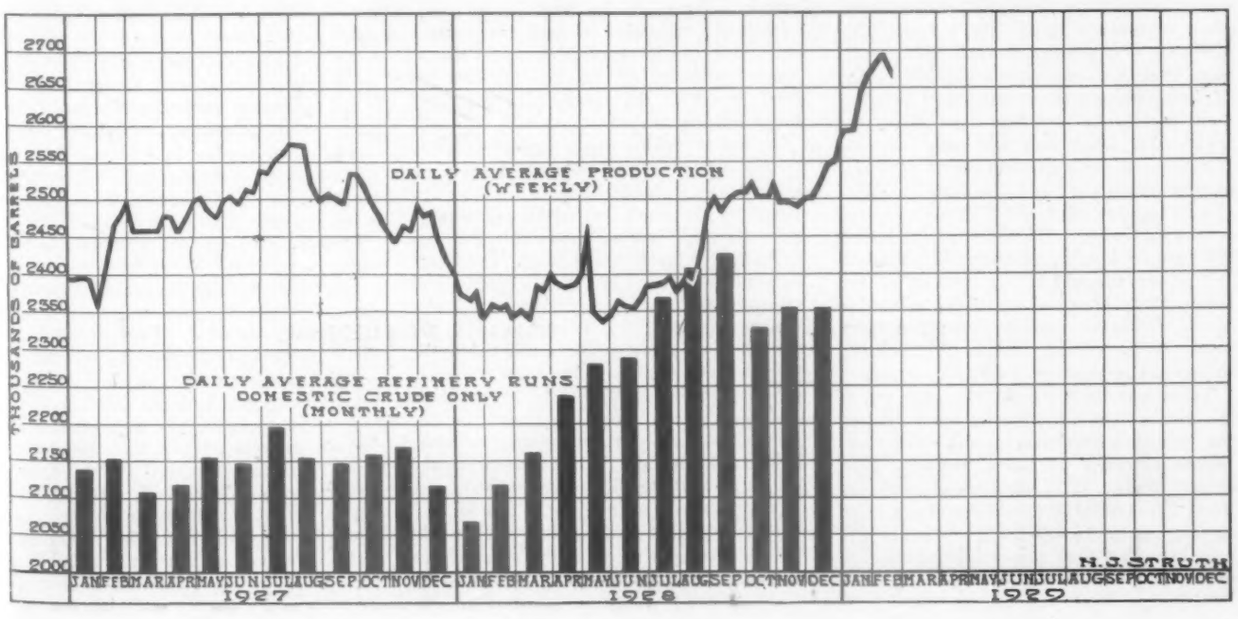
As a matter of fact, if Oklahoma and Texas operators continue to demonstrate their determination to end the reign of overproduction, California operators will be forced to take definite action. Although declines were recorded in quite a number of the major oil fields of the country last week, it cannot be said that all of these declines were due to effort on the part of the industry to curtail operations. Oklahoma has evidently taken the lead in the movement to adjust the economic structure, and there is reason to believe that this movement will have a decided influence upon the industry in general.

One decline in daily average production does not signify that the industry has turned the corner. In other words it is too soon to become unduly optimistic over the future outlook. The general situation is still in a decidedly poor condition and it will take a great many successive declines in production to exert any marked effect upon the immediate outlook.

Where formerly operators talked lightly about proration one hears now on every side sane, serious-minded discussion on this important subject. There is still a great deal to be accomplished before the industry will realize stabilization, but it is gratifying to note that common sense is at last supplanting the former devil-may-care attitude of those who hold the future of the industry in hand.

California cannot longer delay tak-

DOMESTIC PRODUCTION AND REFINERY RUNS



DETAILS OF CRITICAL FIELDS

Pool	Wells Completed	Total Initial Production	Initial Per Well	Number Producing Wells	Daily Production Barrels	Daily Production Per Well	Rigs Up	Wells Drilling
WEST TEXAS—								
Hendrick	531	2,894,800	5,452	541	170,460	315[1]	7	37
Church & Fields	189	203,465	1,077	187	29,325	157	.	.
Gulf-McElroy .	70	56,225	803	70	12,575	180	.	2
Yates	293	1,946,520	6,598	293	85,215	291[1]	3	9
Total	1,083	5,101,010	4,710	1,091	297,575	273	10	48
TEXAS PANHANDLE—								
Hutchinson Co..	1,145	549,465	480	1,019	24,165	24	2	23
Gray County ..	327	135,385	415	317	20,875	66	8	40
Carson County..	184	60,445	329	160	5,595	35	2	15
Wheeler County.	44	14,645	333	35	735	21	6	15
Moore County .	11	6,145	559	9	1,500	167	3	6
Total	1,711	766,085	448	1,540	52,870	34	21	99
OKLAHOMA—								
Seminole	1,680	2,160,053	1,285	1,365	277,972[2]	203	66	752
St. Louis	365	376,932	1,032	307	119,539[2]	389	12	62
CALIFORNIA—								
Santa Fe Springs[3]	100	354,000	3,540	86	165,000	1,650	31	186

[1]Production partially pinched.
[2]Prorated.
[3]Includes deep wells only. For whole field add 25,000 barrels and 215 old wells.

ing much needed action to bring about a return to normalcy.

The Oklahoma crude oil market was falsely strengthened during the past week by the starting of actual proration in the Greater Seminole district. There is no certainty, however, that the proration scheme will be successfully applied over a period. Some opposition has developed to it and the move must have united co-operation before it can hope to be a success.

Mission Opened

In addition to this the State Corporation Commission decided along with a number of operators that the Mission pool was not being fairly treated in extending its shutdown agreement while other fields were allowed to be developed and prorated on a percentage basis. As a result this field will be developed at once. Many wells were shut down on top of the sand when the commission's ruling came and development during the past few days shows the speed with which they will make the last few feet. A peak production of approximately 50,000 barrels is expected at Mission, which would boost Oklahoma's production to about 775,000 barrels during the first of March, or about 125,000 barrels above the 650,000 barrels set as the state's allowable production. Considerable opposition is developing from the large proration percentage necessary to bring the state's production to 650,000 barrels.

There was further talk of a crude cut in Oklahoma light oils the past week—unless the proration proves a success. The California situation is being studied more closely daily. With indications that the West Coast state is due for a crude price slashing some Oklahoma oil men are expressing fear that this might cause another reduction for this district.

Although spot quotations on U. S. Motor gasoline in Group 3 was showing little pep, the average price remained from 6¾ to 7 cents per gallon. The 60-62, 400 end point, was held at 7¼ to 7½ cents, while 7¾ cents a gallon appeared to be the price for 64-66, 375 end point.

The demand for burning oils and distillates was stimulated by the continuance of cold weather in the north. These products are scarce in the higher gravities and the prices are firming up.; 38-40 straw distillate is at 3⅛ to 3¼ cents and 26-28 fuel oil at 75 to 80 cents a barrel. Kerosene is also in good demand, bringing 5⅛ to 5⅜ cents for 41-43 water white grade.

Refiners were making marked reductions in crude oil runs to stills during the past week, having curtailed about 60,000 barrels daily since the first of the year. Despite the reduction in crude runs, however, Mid-Continent refiners report an increased volume of stored gasoline on hand, which is the result of greatly reduced shipments.

Improved prices made available lately in the North Texas refining district on fuel oil, gas oil and distillates have served to restore the plant owners to a profitable basis through having overcome the loss in revenue from gasoline sales. The latter commodity is in its late winter slump, and surplus stocks are contributing to lower prices. Domestic and export jobbers are in control of the gasoline market, but the refiners have the upper hand on the market for burning oils, thereby resulting in an even break. Fuel oil prices in the North Texas district are reported as being firm at 70 cents per barrel for the better grades of burning oil, while a slight price advance was registered in the gas oil and distillate market during the past week. Skimming plant owners in the West Texas district have been materially benefitted by this improved condition in the burning oil group, and are averaging about 45 cents per barrel for their fuel. U. S. motor gasoline is hovering around the 6½ cents per gallon level in North Texas, with shipments below normal.

Major crude purchasing agencies are endeavoring to strengthen their position in the way of additional crude supplies in the West Texas district, and during the past week Magnolia Pipe Line Company announced that construction work would start promptly on a 65-mile 10-inch extension from Midland to Winkler County. Magnolia Petroleum Company has contracted to purchase 5000 barrels of Winkler County crude daily over a period from Pure Oil Company at the posted price in addition to handling 10,000 barrels daily for Pure Oil Company on a common carrier basis to the coast. However, this common carrier movement has been routed via the Atlantic Pipe Line Company's line as far as Midland. Buyers seeking West Texas crude for tank car movement to tidewater, or to interior refining centers still have two opportunities to book a large quantity over the next 12 months, as the American Petroleum Company, which has a pipe line system connecting the Hendrick field with tank car rank near Pyote, is now in position to offer 1,000,000 barrels on contract, with a gathering and loading charge applied to the purchase price. The Mid-Kansas Oil & Gas Company, which controls the major portion of the allowable production in the Yates field, is also offering to make long time contract with responsible purchasers for daily tank car shipments from its Del Rio rack in quantities running up to 10,000 barrels daily, but a transportation and loading charge above the market price is to be included in the price terms.

Empire Line Work

Tulsa.—Empire Pipe Line Company is making satisfactory progress on the construction of its eight-inch pipe line from near Guthrie to a field station near Oklahoma City. About half of the pipe has been laid and the entire line is expected to be completed around March 1.

All cottages, garage and bunk houses have been practically completed at the Greig pump station and foundations laid for the main pumping units. The pumps and motors will be hauled to the site this week. Tank grades and fire walls are completed and the construction of tanks under way.

The company has also started construction of its gravity gathering system in the Oklahoma City field. Twelve and 10-inch lines are being laid from the station. This will be the first major pipe line to tap the Oklahoma City field.

A total of 1773 cars, or approximately 354,600 barrels of oil, had been moved from the discovery well of the field on February 15. The well was drilled by Indian Territory Illuminating Oil Company during early December. The crude is being moved to the Empire Oil & Refining Company refineries at Ponca City Cushing and Okmulgee, Oklahoma.

United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1927	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Ave.	United States Total
November	766,900	106,650	501,750	138,100	49,400	97,850	114,900	75,050	623,850	2,474,450	74,233,500
December	720,700	106,150	531,650	138,500	47,200	94,950	111,250	77,150	624,600	2,452,150	76,017,050
1928											
January	675,450	108,300	523,300	125,450	45,250	90,050	109,600	77,000	617,100	2,371,500	73,516,500
February	664,450	110,550	538,750	115,800	45,300	88,250	104,850	75,550	614,750	2,358,250	68,388,850
March	646,850	112,250	575,850	119,900	44,400	85,600	102,150	78,700	617,450	2,383,150	73,877,650
April	620,450	112,150	617,850	118,850	46,900	83,450	107,000	78,500	613,550	2,398,700	71,961,100
May	610,100	108,750	561,450	129,850	43,600	91,250	112,100	82,200	630,900	2,370,200	73,476,300
June	594,850	105,200	554,400	135,400	42,350	102,850	109,300	82,400	643,400	2,370,150	71,104,500
July	587,150	102,750	597,250	133,650	42,150	90,700	113,400	80,400	644,700	2,392,150	74,156,600
August	656,350	102,200	604,000	130,200	40,200	87,500	113,300	77,700	634,150	2,445,600	75,534,600
September	724,850	99,750	604,150	129,500	39,050	84,700	112,550	78,850	631,650	2,505,050	75,151,500
October	741,350	97,900	598,550	129,950	38,800	83,550	114,000	83,300	624,450	2,511,850	77,867,800
November	715,750	96,600	586,350	135,100	38,600	83,000	109,700	81,150	653,050	2,499,300	74,978,300
December	710,600	97,200	603,700	135,050	37,300	81,350	113,450	74,600	697,850	2,551,100	79,084,400
1929											
January	722,550	97,150	632,500	136,750	36,650	78,600	111,950	73,200	747,250	2,635,600	81,703,600
Feb. 2	728,700	96,800	641,100	139,550	35,950	77,400	110,600	71,850	778,100	2,680,050	18,760,350
Feb. 9	728,350	95,700	640,550	143,500	35,700	77,250	109,600	72,950	789,900	2,693,550	18,854,850
Feb. 16	708,200	95,950	635,350	142,550	36,150	76,850	108,600	73,150	798,100	2,674,900	18,724,300
Increase	.....	250	.....	.....	450	.....	.....	200	8,200	.....	.....
Decrease	20,150	.....	5,200	950	.....	400	1,000	.....	.....	18,650	130,550

TEXAS

(Outside Gulf Coast)

PANHANDLE DISTRICT

	Feb.16	Feb. 9
Carson County	5,550	5,900
Gray County	20,250	21,900
Hutchinson County	23,750	26,050
Wheeler County	600	700
Others	1,500	2,300
Totals	51,650	56,850

NORTH TEXAS

Archer County	17,450	17,600
Burkburnett	9,150	9,300
Electra	13,150	13,300
Iowa Park-KMA	6,450	6,300
Montague and Cooke Counties	9,800	9,650
Wilbarger	27,200	27,550
Others	500	500
Total	83,700	84,200

WEST CENTRAL TEXAS

Brown County	9,000	9,200
Callahan County	3,700	3,600
Coleman County	3,600	3,550
Eastland-Desdemona	6,850	6,950
Jack County	1,750	1,700
Palo Pinto County	400	400
Shackelford County	13,000	11,600
Stephens County	6,400	6,450
Throckmorton County	700	700
Young County	7,600	7,600
Others	700	700
Total	53,700	52,450

WEST TEXAS

Crane-Upton Counties	50,500	52,400
Crockett County	2,100	2,050
Howard County	40,600	39,250
Jones County	6,850	7,050
Mitchell-Scurry Counties	2,600	2,600
Pecos County	84,600	82,700
Reagan County	18,100	18,800
Winkler County	165,200	170,050
Others	1,600	1,750
Total	372,150	376,650

EAST CENTRAL TEXAS

Boggy Creek	3,400	3,050
Corsicana-Powell	9,050	9,100
Currie	500	500
Mexia	5,900	5,900
Nigger Creek	600	600
Richland	500	500
Wortham	1,400	1,400
Total	21,350	21,050

SOUTHWEST TEXAS

Dale	700	700
Laredo District	12,350	12,000
Luling	12,900	13,000
Lytton Springs	1,000	1,000
Somerset	600	600
Salt Flat	21,800	19,050
Others	3,450	3,000
Total	52,800	49,350
T'tl Tex. (Outside Gulf Coast)	635,350	640,550

TEXAS GULF COAST

Barbers Hill	6,200	6,500
Batson	1,350	1,400
Big Creek	5,000	5,250
Blue Ridge	4,300	4,300
Boling	2,100	2,100
Damon Mound	850	950
Goose Creek	6,250	6,300
Hull	9,950	10,100
Humble	4,600	4,700
Orange County	2,950	3,100
Pierce Junction	11,900	11,800
Raccoon Bend	1,850	1,850
Saratoga	900	950
Sour Lake	3,000	2,950
South Liberty	6,500	6,750
Spindle Top	33,500	33,900
Sugar Land	7,400	7,500
West Columbia	6,900	7,100
Others	5,500	4,500
Total	121,000	122,000
Texas Total	756,000	762,550

OKLAHOMA

Braman	3,500	3,700
Logan County	13,300	14,100
Blackwell	4,200	4,250
Hubbard	1,950	1,900
Thomas	900	950
Tonkawa	10,750	10,950
Garber	6,150	6,150
Burbank	22,200	22,950
Osage (outside Burbank)	26,000	26,050
Cushing	20,400	20,600
Yale Jennings	7,700	7,700
Davenport	1,600	1,650
Bristow Slick	18,950	19,000
North Okmulgee	14,150	14,200
Lyons Deaner	7,950	7,950
Cromwell	8,050	8,100
Papoose	3,450	3,500
Wewoka	5,300	5,350
Seminole	37,850	39,600
Searight	8,750	9,100
Bowlegs	39,900	41,100
Little River	93,500	101,600
Earlsboro	63,600	65,650
Duncan District	7,150	7,250
Graham	4,500	4,500
Fox	1,500	1,500
Healdton	13,050	13,100
Hewitt	8,650	8,700
Scholem Alechem	13,350	13,550
Pearson	1,700	1,750
St. Louis	121,250	127,150
Allen	27,300	28,950
Maud	43,250	40,100
Okla. City	5,500	5,600
Mission	1,200	700
Others	39,750	39,400
Total	708,200	728,350

CALIFORNIA

Santa Fe Springs	191,500	185,500
Long Beach	180,500	178,000
Huntington Beach	48,000	49,000
Torrance	15,000	15,000
Dominguez	10,000	10,000
Rosecrans	7,000	6,500
Inglewood	26,500	27,000
Midway-Sunset	73,000	73,000
Ventura Avenue	55,000	55,000
Seal Beach	32,500	31,500
Elwood-Goleta	23,500	23,000
Kettleman Hills	3,300	4,600
Others	132,300	131,800
Total	798,100	789,900

KANSAS

Greenwood County	22,300	22,500
Florence-Covert	850	900
Peabody-Ebling	3,300	3,250
Eldorado-Towanda	12,300	12,300
Augusta-Fox Bush	2,950	2,950
Rainbow Bend	1,100	1,100
Russell	3,450	3,450
Churchill	7,300	7,300
Oxford	5,850	6,150
Sedgewick	6,850	6,000
Others	29,700	29,800
Total	95,950	95,700

NORTH LOUISIANA

	Feb.16	Feb. 9
Homer	4,000	4,000
Haynesville	5,500	5,550
Caddo Light	8,850	9,000
Caddo Heavy	2,850	2,700
DeSoto-Red River	4,050	3,950
Elm Grove	600	600
Bellevue	750	700
Cotton Valley Light	3,000	3,100
Urania	5,850	5,400
Pleasant Hill	450	450
Others	250	250
Totals North Louisiana	36,150	35,700

LOUISIANA GULF COAST

Bayou Boullion	350	200
East Hackberry	6,400	5,750
Edgerly	800	800
Evangeline	800	800
Lockport	4,550	5,000
Sorrento	600	800
Sulphur Dome	2,500	2,500
Sweet Lake	600	600
Vinton	4,250	4,200
Others	700	850
Total Louisiana Gulf Coast	21,550	21,500
Louisiana Total	57,700	57,200

ARKANSAS

El Dorado	4,850	4,850
Champagnolle	10,250	10,450
Smackover Light	6,600	6,750
Smackover Heavy	51,050	51,300
Stephens	1,050	1,000
Nevada	1,450	1,300
Lisbon	1,500	1,500
Others	100	100
Total	76,850	77,250

MOUNTAIN STATES

WYOMING

Salt Creek	34,250	33,300
Grass Creek	2,200	2,250
Elk Basin	700	750
Big Muddy	2,250	2,300
Lost Soldier	3,350	3,400
Rock River	2,350	2,400
Lance Creek	300	300
Oregon Basin	3,350	3,350
Others	3,050	5,650
La Barge	2,700	———
Total	54,500	53,700

MONTANA

Cat Creek	1,400	1,400
Sunburst	6,750	6,750
Pondera	1,850	2,700
Total	10,000	10,850

COLORADO

Moffats (Craig)	1,050	1,050
Fort Collins	2,500	2,300
Florence	1,250	1,100
Others	2,100	2,050
Total	6,900	6,500

NEW MEXICO

Artesia	950	950
Hogback	250	450
Rattlesnake	450	450
Others	100	100
Totals	1,750	1,900
Totals Mountain States	73,150	72,950

EASTERN STATES

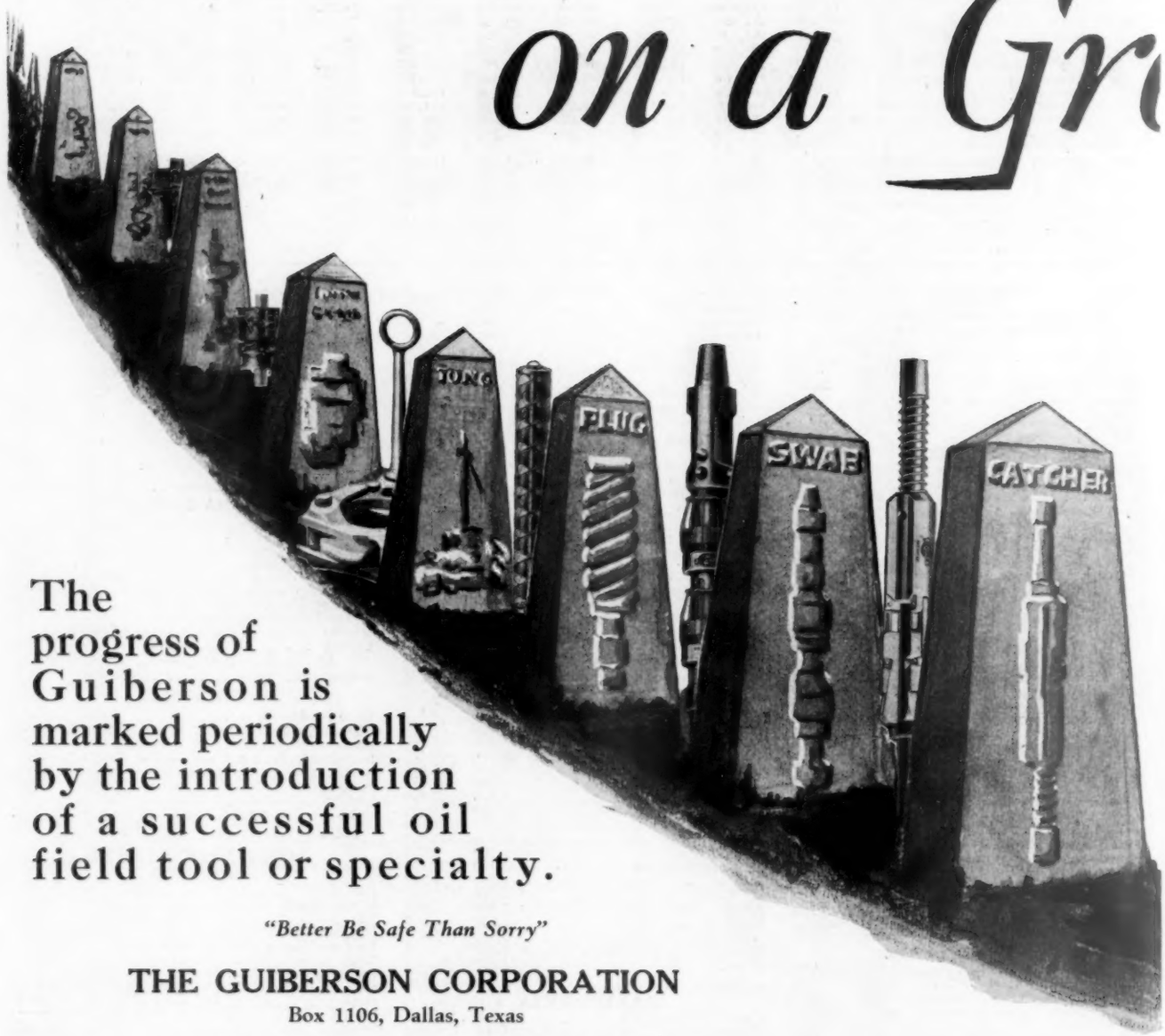
(Including Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y.)	108,600	109,600

PRODUCTION SUMMARY

East of Rockies	1,803,650	1,830,700
Total U. S.	2,674,900	2,693,550

MILES

on a Gr



The progress of Guiberson is marked periodically by the introduction of a successful oil field tool or specialty.

"Better Be Safe Than Sorry"

THE GUIBERSON CORPORATION

Box 1106, Dallas, Texas

California Branch: 1506 Santa Fe Ave., Los Angeles

402 W. First St., TULSA

321 Osage St., PONCA CITY

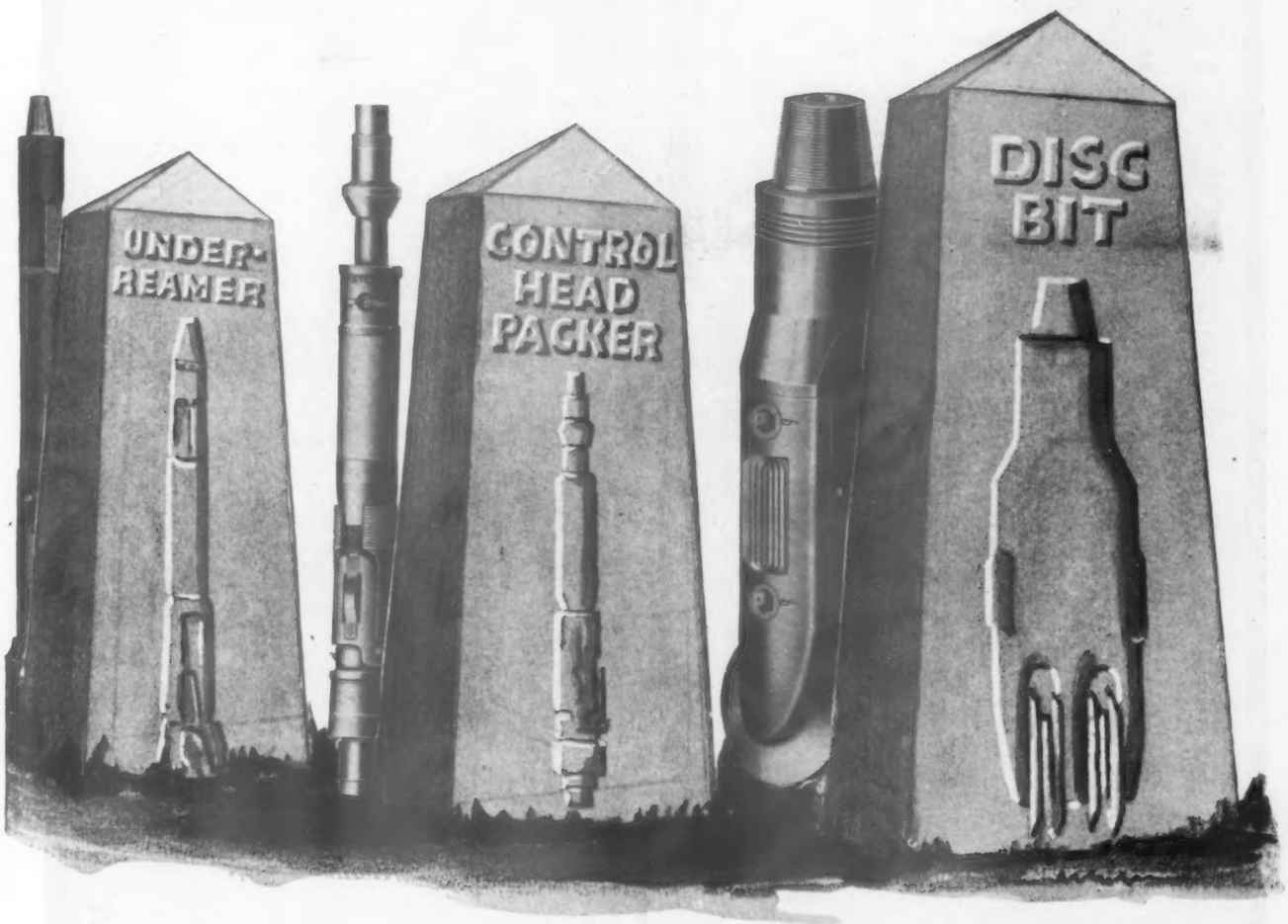
506 Trust Bldg., NEWARK, O.

GUIBE

Say you saw it in The OIL WEEKLY

ΓONES

eat Trail

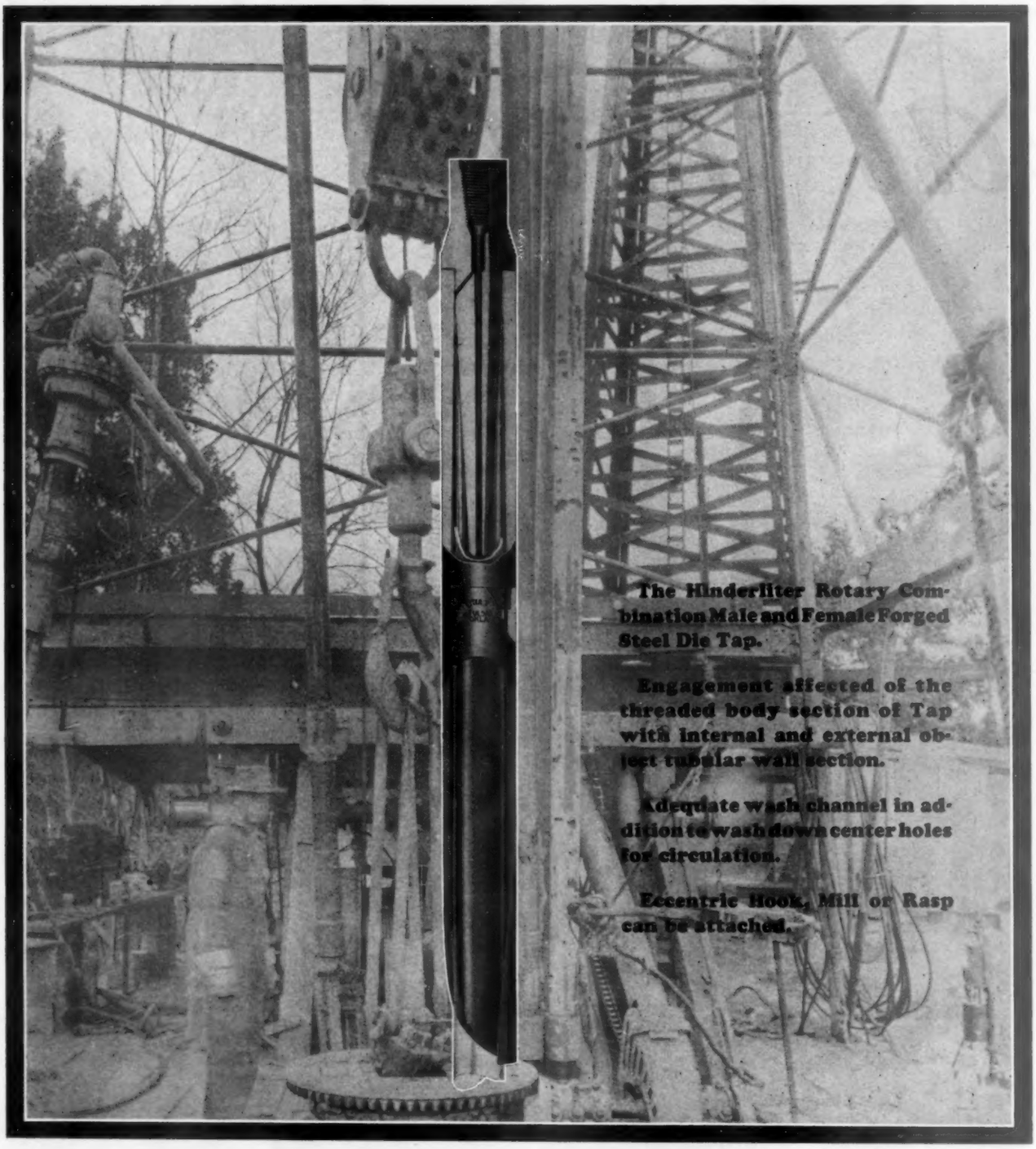


RSON

DRILLING AND FISHING TOOLS

HINDERLITER TOOL COMPANY

ROTARY AND STANDARD CABLE


The Hinderliter Rotary Combination Male and Female Forged Steel Die Tap.
Engagement affected of the threaded body section of Tap with internal and external object tubular wall section.
Adequate wash channel in addition to wash down center holes for circulation.
Eccentric Hook, Mill or Rasp can be attached.

HONEST TOOLS

ROTARY *STANDARD CABLE*

Say you saw it in The OIL WEEKLY

Committees Organized to Perfect A. P. I. Curtailment Plan

Reeser names regional committees to arrange production control in North and South Amerika

TULSA.—The plan by which four regional committees will work toward the curtailment of oil production from a world-wide viewpoint was announced here Tuesday by E. B. Reeser, president of the American Petroleum Institute. The plan and the personnel of committees were authorized by the executive committee of the Institute in St. Louis February 12, following an informal conference of oil producers, who asked that the idea of holding back oil output be extended into foreign countries.

The plan as announced today sets up a general committee, the four regional committees and lists four suggestions upon which these committees shall begin deliberations. The regional committees will meet at the call of their respective chairmen, who are urged to bring the bodies together promptly.

Out of the deliberations of the four regional committees, will come plans and suggestions on which the general committee, of which R. C. Holmes is chairman, will formulate recommendations for control of the world's oil supply.

Other than two preliminary paragraphs, the statement from the president of the Institute reads:

President's Statement

"It is well known that most of the important oil fields throughout the world are producing an amount of crude in excess of the consumption in the markets geographically tributary thereto. This overproduction has developed such an acutely serious situation that the most complete cooperation lawfully possible is essential to prevent its further development and attendant waste.

"Each regional committee is urged to meet promptly and engage in discussions and cooperative action to hasten adjustments and assist in solving the problem, and in order that the general committee, which will be composed of Mr. R. C. Holmes, as general chairman, together with the chairman of each of the regional committees, plus two additional members to be selected by the regional committees themselves, will have before them for consideration at least four suggestions or general plans. It is suggested that each regional committee give it consideration.

"First: To analyze the problems of production and consumption of petroleum and its refined products, not only in the territory for the region of your committee, but all the world, giving particular attention, however, to the determination of methods whereby your particular area can lawfully adjust itself to the problem of producing, as nearly as possible, only such quantity of oil as will supply its own natural geographical markets.

"Second: To prepare and present a report to the general committee indicating conclusions reached as to its own area, and suggestions for the proper and effective application of your plan and the part this area can and will endeavor to play in cooperative action with the other regions, looking toward properly balancing overproduction, at least on the Western Hemisphere.

"Third: It is suggested that if such cooperative measures as you may determine desirable either in your region or other regions, do not appear to be feasible because of existant laws or other difficulties, your committee shall make suggestions for such corrective measures as would appear to be helpful in arriving at the solution of the general problem before us. The committees should not feel limited in the extent to which they should study the entire problems and activities in other branches of the industry which might, through proper cooperation or regulation, assist in improvement of the production and economical situation.

"Fourth: Each regional committee chairman is requested to call promptly a meeting of his regional committee that the work may be gotten immediately under way and its report prepared for submission to an early meeting of the general committee, to be called by chairman Holmes in New York not later than March 15. This work is of such importance to the industry that it is hoped by the executive committee of the Institute that no committeeman designated will fail to serve. However, in order that each regional committee meeting be fully represented, members are authorized to select alternates, and members of your committee should feel free to consult with other producers and refiners of petroleum products, not represented on the committee.

Personnel of the Four Regional Committees

Pacific Coast Regional Committee

K. R. Kingsberry, chairman,
W. M. Keck,
Wm. F. Humphreys,
Ward B. Blodgett,
L. T. Barneson,
A. C. Diericx,
W. C. McDuffie,
C. M. Fuller,
L. P. St. Clair,
C. D. Olmsted,
R. A. Broomfield,
D. F. Ewing,
H. P. Grimm,
R. F. MacMillan,
E. L. Doheny,
G. L. Jones,
Roy M. Bishop,
Geo. L. Machris.

Gulf Coast and Atlantic Seaboard Committee

George S. Davis, chairman,
C. F. Cullinan,
Frank R. Coates,
W. S. Farish,
Henry M. Dawes,
H. F. Sinclair,
Herbert L. Pratt,
R. C. Holmes,
Geo. T. Whaley,
W. M. Irish,
E. H. Buckner,
E. R. Brown,
J. C. Van Eck,
W. C. Teagle,
J. Howard Pew,
A. J. Byles,
F. M. Yount.

Interior Regional Committee

W. C. Franklin, chairman,
E. F. Blim,
H. B. Earhart,
O. D. Donnell,
H. V. Foster,
E. DeGolyer,
F. B. Fretter,
W. C. Holliday,
S. H. Keoughan,
John H. Markham, Jr.,
Henry McGraw,
E. H. Moore,
J. F. O'Donohue,
F. P. Parriott,
E. W. Sinclair,
W. E. Smith,
B. N. Stephens,
H. R. Straight,
L. W. Young, Jr.,
Wm. N. Davis,
W. S. Fitzpatrick,
T. A. Dines,
Jacob France,
Wirt Franklin,
John L. Gray,
Roy P. Jones,
A. M. Landon,
E. J. Marston,
R. W. McIlvain,
D. J. Moran,
R. Ogarrio,
J. Edgar Pew,
W. G. Skelly,
Thomas B. Slick,
R. W. Stewart,
L. H. Wentz,
U. deB. Daly.

Mexico and Northern South America Committee

E. J. Sadler, chairman,
Herbert J. Carr,
F. A. Leovy,
R. G. Stewart,
A. E. Watts,
Richard Airey,
George H. Smith,
F. J. Huffman.

Magnolia Extending West Texas Line to Winkler County

SAN ANGELO, Texas. — Magnolia Pipe Line Company purchased materials February 15 to start construction work immediately on a 10-inch pipe line extension from its West Texas terminal at Midland to Winkler County, thereby assuring this producing area three new 10-inch trunk lines by spring, as The Texas Pipe Line Company and Gulf Pipe Line Company are at work on their carriers. Upon the completion of these three new lines, Winkler County will have in excess of 300,000 barrels of pipe line facilities daily from 15 lines extending to tank car racks and refineries in nearby counties, and via trunk lines operated by Humble Pipe Line Company, Atlantic Pipe Line Company, Shell Pipe Line Company, Pasotex Pipe Line Company and the above mentioned entrants. However, proration enforcement limits the output of the county to a maximum of 175,000 barrels daily.

Entrance of Magnolia Pipe Line Company into the Winkler County area is probably due to the company wishing to obtain the full pipe line tariff on a large amount of oil being handled for Hendrick and Daugherty field producers on a common carrier basis to tidewater, with Atlantic Pipe Line Company sharing in the tariff now by transporting the Hendrick field crude as far as Midland station. Recent oil strikes in Lea County, New Mexico, where Magnolia Petroleum Company holds a one-half interest in a large amount of checkerboard leases, also offers favorable prospects of later becoming an important source of crude supply, and Magnolia Pipe Line Company has a small carrier within two miles of the state line.

Magnolia Petroleum Company's two producing properties in Winkler County were given a daily production quota of 1,301 barrels for the last half of February, and the company owns about 3,000 barrels of royalty oil daily. This oil is being run to field storage.

Magnolia Pipe Line Company made contract in February, 1928, to transport 3,600,000 barrels of Winkler County crude, with an option on an additional amount of 1,200,000 barrels, for the Pure Oil Company to Smiths Bluff. In connection with this common carrier deal, Magnolia Pipe Line Company arranged for the Atlantic Pipe Line Company to handle the oil as far as Midland, where deliveries could be made to Magnolia Pipe Line Company's West Texas trunk line system. Atlantic Pipe Line Company's tariff is 15 cents per barrel on this service. Atlantic Oil Producing Company's production in Winkler County was moved to storage at Midland, with 10 to 15 thousand barrels daily being handled from the latter point to tidewater by Magnolia Pipe Line Company until the first week in January, 1929, when Atlantic Pipe Line Company's trunk line to Atreco was put in operation.

The 4,800,000 barrel common carrier crude deal between Pure Oil Company and Magnolia Pipe Line Company will not be completed until next summer, as daily deliveries are placed at 10,000 barrels, and the extension line will be rushed to completion in order to handle as much of this oil as possible.

Pure Oil Company's allowable production quota for the ensuing proration period is 13,894 barrels daily in the Hendrick field, thus leaving a surplus over common carrier shipments arranged for, as has been the case for many months. However, relief from this surplus production has been assured by contract made recently by Pure Oil Company to sell 5,000 barrels daily to Magnolia Petroleum Company at the posted price, and first runs on this contact were made to field storage last week. It is reported that Pure Oil Company will deliver oil from storage, which amounted to 529,800 barrels, with less than 80,000 barrels room on February 1, to make the 5,000 barrel daily deliveries to Magnolia Petroleum Company, but withdrawals from storage will not begin until the trunk line is completed, as the latter is having to build storage to take care of current runs in Winkler County.

Approximately 65 miles of 10-inch welded pipe was ordered by Magnolia Pipe Line Company last week from two Eastern mills to build from Midland station and tank farm to the Halley tank farm, located in the north one-half of Section 6, Block 11, and southeast of the Hendrick field, where 16 80,000 barrel tanks are completed, and nearly all filled, with one building. The Company has 74 80's and 17 55's on its Midland tank farm, which is located on Section 43, Block 38, T&P Ry. survey, T-1-S. Only one pump station will be used in connection with this extension, and it will be equipped with reciprocating pumps driven by electric motors, located on the Halley tank farm site. This farm is connected with the Hendrick field with small lines, and also with a separate four-inch carrier to the Llano and Daugherty pools. Magnolia Pipe Line Company has an eight-inch looped line extending from Midland to DeLeon, where connection is made with its old Central West Texas system, leading to the coast. The Midland-DeLeon system is rated at 32,500 barrels daily capacity during warm weather.

Gulf Pipe Line Company is stringing pipe on its combination eight and ten-inch line from Midland station via Monahans to the Hendrick field, a distance of about 80 miles, and will work construction crews from both ends in order to speed up completion. Gulf Pipe Line Company is using 60 miles of 10-inch welded between Midland and Monahans, and eight-inch screw pipe from the latter point to its tank farm on the west side of the Hendrick field, with only one pump station scheduled.

The Texas Pipe Line Company is well underway on laying a 10-inch line from the Hendrick field to the Yates field, where connection will be made with 12-inch welded line now being built to the Gulf Coast, and is also laying a ten-inch line north from the Hendrick field into Lea County, New Mexico, near the town of Jal.

Humble Buys Marland Lines in West Texas

McCamey, Texas.—Gathering lines, steel tankage, pump stations and other physical properties owned by the Marland Pipe Line Company in the McCamey district, centering on Upton and Crane Counties, have been sold to Humble Pipe Line Company. In connection with this deal the Marland Refining Company made official announcement that effective 7 a. m. February 16, 1929, the company would discontinue buying oil, or posting crude prices in the district.

Marland has six 80's and four 55,000 barrel steel tanks near McCamey, connected with all parts of the field with about 14 miles of six-inch line, and a number of smaller feeder lines. A 40-car rack is located on a nearby site.

Crude oil produced and purchased by Marland Production Company in this district and also in the Texas Panhandle since December, 1926, has been applied on the 9,000,000 barrel contract made with Humble Oil & Refining Company for a period of three years, ending December, 1929. Marland Production Company receives the posted price, plus gathering charge on all oil delivered to Humble Oil & Refining Company's tanks under the terms of the contract, with a maximum daily delivery of 10,000 barrels from the McCamey district and a maximum of 15,000 barrels daily from the Panhandle. However, Marland Production Company has not been able to maintain maximum daily deliveries in either district for months.

Humble Pipe Line Company also purchased five new 80,000 barrel steel tanks held in storage in the Texas Panhandle by Marland Production Company for the past two years, and these tanks will be shipped to Ingleside, Texas, for erection. Marland Pipe Line Company has an extensive pipe line gathering system, and tank farm in the Texas Panhandle district that will probably be sold shortly.

Simplex STUFFING BOX

. . . above everything, assures the operator, and guarantees, that the oil will go where it belongs; into the tank pipe lines, thus eliminating oil waste and loss of time . . . Proper lubrication is insured, as the large bowl in the top of the stuffing box carries enough oil to prevent the packing from burning out while the oil may be coming to the top or between heads of oil.

D+B Simplex Stuffing Box is extremely simple. It has a minimum number of parts . . . is easily adjusted by the patented drop handles which are out of the way when not needed, but instantly available to tighten or loosen the pressure, without a wrench. The handles are so attached as not to work loose or get lost. Uses any standard packing and has standard threads. Full details on request.

Emsco Steel Equipped Wells Are Safe

Protected by Steel

EMSCO EQUIPMENT CO.

EMSCO DERRICK & EQUIPMENT COMPANY
LOS ANGELES, CALIF., HOUSTON, TEXAS-DALLAS, TEXAS
U. S. A.
EXPORT OFFICE: 150 BROADWAY
NEW YORK CITY, N. Y.
U. S. A.

All Emsco products except derricks sold exclusively in Mid-Continent and Eastern States by

CONTINENTAL SUPPLY COMPANY

FEATURING — The Portable Rig Company's 3-speed draw-works drive unit and Oil Well Supply Company's mud hog pump — Both Timken-equipped.

18 TIMKEN BEARINGS

Here is a hook-up that is more than a coincidence. It illustrates the universal use of Timken Bearings in the oil fields where there are more Timkens than all other anti-friction makes combined. Both of the machines in this picture are Timken-equipped . . . the "Oilwell" Mud Hog Pump and the Portable Rig 3 Speed-Draw-Works drive unit.

Let loads be what they will—Timken full radial-thrust capacity is all-sufficient to care for them.

—And for the long grind are these exclusive guardians of long life — Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS* and Timken electric steel.

No wonder Timken Bearings lead "wherever wheels and shafts turn".

THE TIMKEN ROLLER BEARING CO., CANTON, OHIO

TIMKEN *Tapered Roller* **BEARINGS**

Say you saw it in The OIL WEEKLY

Engineers Gathered at New York For Annual Meeting

Technical discussion and production situation principal features of program of Petroleum Section

By H. J. STRUTH

NEW YORK.—Geologists, engineers and prominent oil men from every section of the United States are on hand in New York to take active part in the sessions of the Petroleum Division of the American Institute of Mining and Metallurgical engineers to be held Wednesday and Thursday, February 20 and 21.

The annual meeting of the Institute was officially opened on Monday morning, February 18, and will be concluded on Thursday, February 21. The first session of interest to oil men took place on the second day of the meeting when James A. Veasey of the Carter Oil Company addressed the session on Production Control on the subject: "May the American Petroleum Industry, Through Voluntary Action, Control It's Production?" The keynote of his address was that while progress has been made in the attempt to control the output of petroleum, the very nature of the industry, with its large financial interest in the hands of speculative forces, involving ignorance, jealousy and selfishness, invites the prophesy that legislative control will eventually succeed voluntary measures now planned or already in force. He said that he is not in favor of government control of the petroleum industry, but it looks now as if that is the only course open.

Mr. Veasey pointed out that there is every indication that over production will be more pronounced this year than ever before. Adding that immediate and drastic steps are decidedly necessary to prevent complete demoralization. He endorsed unit pool operation as the only sound method of controlling oil production. He said that the chief difficulty since the war has been the influx of new capital and enterprise into the industry. This has brought about severe competition and encouraged gambling and artificial stimulation to protect marketable securities. He said that, unlike any other business, petroleum has the financial interest of the actual participation in its operations by men who are entirely ignorant of the problems and needs of the industry or its economic foundation. These men include those engaged in other lines of business such as barbers, merchants, physicians, grocers, butchers and various other occupations. A great many persons interested in the oil industry are mainly concerned with the chance of making a quick profit. They are not interested in the oil itself, but in their ability to buy and sell leases or fee land and dealing in royalties, etc.

With a contingent of that kind to deal with it is almost impossible to make any sound plan operate effectively. He believes, therefore, that the public and the government should not attempt to unfairly criticise the oil industry because those who are attempting to solve its problems are primarily doing so with the interest of the public and the future conservation of this great natural resource uppermost in their minds.

The fight will go on to the finish, said Mr. Veasey, but it is going to be a long hard battle to bring about equilibrium. In the end, when everything else has been tried and has failed, legislation will probably effect desired results.

Many valuable papers are scheduled for presentation during Wednesday and Thursday on petroleum engineering, economics, production and geophysics.

It has been rumored here that President Elect Hoover may be present at the annual banquet Wednesday evening, at which time he will be presented with a medal of honor by the Institute officers. If there is any foundation to this rumor it is being closely guarded and it may be that Mr. Hoover's visit will be a surprise event of the meeting.

Many of the papers and scheduled discussions of the Petroleum Division are of particular importance this year because of present and pending developments within the industry.

Restrictions Lifted—Mission Has Many Wells on Sand

OKLAHOMA CITY.—After an all day session between the Oklahoma Corporation Commission and Mission pool operators, the commission issued an order lifting the agreement to extend the shut-down in that pool. This means that the field will come under the state-wide plan of limiting production to 650,000 barrels per day.

Twenty wells are ready to start producing with the lifting of the shut-down program and about 70 additional wells are expected to be completed in the next few weeks. The peak production of Mission is estimated at about 50,000 barrels daily and should be reached during March.

This large recovery at Mission would boost the state's output to above 775,000 barrels daily, or 125,000 barrels above the figure set for the state. Bringing Mission under the agreement will greatly increase the percentage of proration in Greater Seminole. It is likely that 36 per cent. proration will be enforced at Mission around March 1, when new potentials will be taken.

Protests against extending the Mission shut-down were made by several operators and royalty owners to the commission on the ground that it seems unfair to keep Mission restricted when other and several younger pools in the Greater Seminole district were being developed and permitted to participate in the state-wide plan of 650,000 barrels per day.

State-Wide Proration Starts

The last of the past week saw the beginning of proration of Oklahoma production. Progress had been made in lowering the output of Greater Seminole, but it still is above the set figure.

Many operators think that the agreement will not prove successful. A number of producers and several royalty owners have voiced their protests and some operators have said they would not participate. All of the large companies and most of the smaller have joined the pact, however. Just what steps will be taken by Umpire Ray Collins in attempting to overcome the obstacles has not been made known.

Some of the protests are based on the large curtailment of production that will be necessary to lower the state's recovery to 650,000 barrels, while others do not want their production pinched at all. Then there are those who think it unfair to restrict Oklahoma production when other states are producing openly, principally California.

CRUDE OIL PRICE QUOTATIONS

(Revised to February 19, 1929)

CRUDE PRICE CHANGES

Effective February 15, Joseph Seep Purchasing Agency reduced Somerset crude 15 cents to 1.60 per barrel.

Effective February 16, Stoll Oil Refining Company reduced its price at Oil City, Kentucky, 15 cents to $1.60 per barrel.

EASTERN STATES
(Effective February 15, 1929)

Penna Grade Oil in New York Transit Lines (New York)	$4.10
Brandford District Oil in National Transit Lines (Pennsylvania)	4.10
Penna Grade Oil in National Transit Lines (Pennsylvania)	4.00
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	4.00
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	3.90
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	3.85
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia)	1.45
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s lines	1.80
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s lines	1.75
Somerset Oil in Cumberland Pipe Line lines (Kentucky)	1.60
Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (Effective Jan. 29, 1929)	.60
Keister (Pennsylvania)	1.20

CENTRAL STATES
(Effective January 25, 1929)

Posted by Ohio Oil Co.

Illinois	1.45
Indiana	1.27
Lima	1.50
Plymouth	1.18
Princeton	1.45
Waterloo	1.25
Wooster	1.62

WESTERN KENTUCKY
(Effective January 25, 1929)

All grades	1.53

MID-CONTINENT
(Effective January 25, 1929)

Carter Oil Company, Gulf Pipe Line Company, Sinclair Pipe Line Company, Prairie Oil and Gas Company and The Texas Company.

25 to 25.9gravity	.66
26 to 26.9 gravity	.72
27 to 27.9 gravity	.78
28 to 28.9 gravity	.84
29 to 29.9 gravity	.90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 to 37.9 gravity	1.23
38 to 38.9 gravity	1.26
39 to 39.9 gravity	1.29
40 to 40.9 gravity	1.32
41 to 41.9 gravity	1.35
42 to 42.9 gravity	1.38
43 to 43.9 gravity	1.41
44 and above	1.44

MID-CONTINENT
(Effective January 24, 1929)

Magnolia Petroleum Company

Under 26	.60
26 to 26.9 gravity	.65
27 to 27.9 gravity	.70
28 to 28.9 gravity	.75
29 to 29.9 gravity	.80
30 to 30.9 gravity	.90
31 to 31.9 gravity	1.00
32 to 32.9 gravity	1.08

From 33 to 44 gravity and above, Magnolia Petroleum Company prices are the same as those of Carter Oil Company.

PANHANDLE
(Effective January 24, 1929)

GRAY COUNTY
(Humble Oil & Refining Company, Magnolia Petroleum Company, Gulf Pipe Line Company and Sinclair Pipe Line Company).

Below 29 gravity	.69
29 to 29.9 gravity	.75
30 to 30.9 gravity	.81
31 to 31.9 gravity	.87
32 to 32.9 gravity	.93
33 to 33.9 gravity	.96
34 to 34.9 gravity	.99
35 to 35.9 gravity	1.02
36 to 36.9 gravity	1.05
37 to 37.9 gravity	1.08
38 to 38.9 gravity	1.11
39 to 39.9 gravity	1.14
40 to 40.9 gravity	1.17
41 to 41.9 gravity	1.41
42 to 42.9 gravity	1.46
43 to 43.9 gravity	1.51
44 and above	1.56

WHEELER COUNTY
(Humble Oil and Refining Company and Magnolia Petroleum Company)

Below 30 gravity	.70
30 to 30.9 gravity	.76
31 to 31.9 gravity	.82
32 to 32.9 gravity	.88
33 to 33.9 gravity	.91
34 to 34.9 gravity	.94
35 to 35.9 gravity	.97
36 to 36.9 gravity	1.00
37 to 37.9 gravity	1.03
38 to 38.9 gravity	1.06
39 to 39.9 gravity	1.09
40 to 40.9 gravity	1.12
41 to 41.9 gravity	1.15
42 to 42.9 gravity	1.18
43 to 43.9 gravity	1.21
44 and above	1.24

CARSON-HUTCHINSON COUNTIES
(Humble Oil and Refining Company, Magnolia Petroleum Company and Gulf Pipe Line Company)

Below 32 gravity	.72
32 to 32.9 gravity	.78
33 to 33.9 gravity	.81
34 to 34.9 gravity	.84
35 to 35.9 gravity	.87
36 to 36.9 gravity	.90
37 to 37.9 gravity	.93
38 to 38.9 gravity	.96
39 to 39.9 gravity	.99
40 to 40.9 gravity	1.02
41 to 41.9 gravity	1.05
42 to 42.9 gravity	1.08
43 to 43.9 gravity	1.11
44 and above	1.14

WEST TEXAS
(Humble, Gulf, Magnolia, The Marland Company and Southern Crude Oil Purchasing Company)*

Crane-Upton, Crockett, Pecos and Winkler Counties, all grades	.65

*Gulf does not post in Winkler County; Magnolia posts in Crane, Upton and Winkler Counties. The Marland Company posts only in Crane, Upton and Crockett Counties; Southern posts only in Crane, Upton and Winkler Counties.

CALIFORNIA CRUDE OIL PRICES AT THE WELL
(EFFECTIVE JANUARY 18, 1929)

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated)

Gravity	Ventura *	Signal Hill	Alamitos Heights-Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Elwood Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$ .85	$ .70	$ .70	$ .70	$ .70	$ .70	$ ..	$ ..	$ .70	$ .70	$ .70	$ .70	$ .70	..	$ .50	$ .50	$ .50	$ .50	$ .50	$ .50
15-15.9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
16-16.9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
17-17.9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
18-18.9	.85	.75	.75	.75	.75	.75	..	..	.75	.75	.75	.70	.75	..	.50	.56	.56	.56	.56	.56
19-19.9	.85	.80	.80	.80	.80	.80	..	..	.80	.80	.80	.75	.80	..	.50	.62	.62	.62	.62	.62
20-20.9	.85	.85	.85	.85	.85	.85	..	..	.85	.85	.84	.80	.84	..	..	.68	.68	.68	.68	.68
21-21.9	.86	.89	.89	.89	.89	.89	..	..	.89	.89	.88	.85	.88	.89	..	.74	.74	.74	.74	.74
22-22.9	.87	.93	.93	.93	.93	.93	..	..	.93	.93	.91	.90	.91	.92	..	.80	.80	.80	.80	.80
23-23.9	.90	.97	.97	.97	.97	.97	..	..	.97	.97	..	.95	.94	.95	..	.85	.85	.85	.85	.85
24-24.9	.94	1.01	1.01	1.01	1.01	1.01	1.01	.94	1.01	1.01	..	.98	.97	.98	..	.90	.90	.90	.88	.88
25-25.9	.98	1.05	1.05	1.05	1.05	1.05	1.05	.98	1.05	1.05	..	1.01	1.00	1.01	..	.95	.95	.95	.91	.91
26-26.9	1.02	1.09	1.09	1.09	1.09	1.09	1.09	1.02	1.09	1.09	..	1.04	1.04	1.04	..	1.00	1.00	1.00	.94	.94
27-27.9	1.06	1.13	1.13	1.13	1.13	1.13	1.13	1.06	1.13	1.13	..	1.07	1.08	1.07	..	1.05	1.05	1.05	.98	.97
28-28.9	1.10	1.17	1.17	1.17	1.17	1.17	1.17	1.10	1.17	1.17	..	1.10	1.12	1.10	..	1.10	1.10	1.10	1.02	..
29-29.9	1.14	1.21	1.21	1.21	..	1.21	1.21	1.14	..	1.21	..	1.13	1.16	1.15	..	1.16	1.16	1.16	1.06	..
30-30.9	1.18	1.25	1.25	1.25	..	1.25	1.25	1.18	..	1.25	..	1.16	1.20	1.20	..	1.22	1.22	1.22	1.10	..
31-31.9	1.23	1.30	1.30	1.30	..	..	1.30	1.23	..	..	..	..	..	1.25	..	1.28	1.28	1.28	1.14	..
32-32.9	1.28	1.35	1.35	1.35	..	..	1.35	1.28	..	..	..	..	..	1.30	..	1.34	1.34	1.34	1.18	..
33-33.9	..	..	..	..	..	..	1.41	1.34	..	..	..	..	..	1.35	..	1.40	1.40	1.40	1.22	..
34-34.9	..	..	..	..	..	..	1.47	1.40	..	..	..	..	..	1.40	..	..	..	1.46	1.26	..
35-35.9	..	..	..	..	..	..	1.53	1.46	..	..	..	..	..	1.45	..	..	..	..	1.30	..
36-36.9	..	..	..	..	..	..	1.59	1.52	..	..	..	..	..	1.50	..	..	..	..	..	..
37-37.9	..	..	..	..	..	..	1.65	1.58	..	..	..	..	..	1.55	..	..	..	..	..	..
38-38.9	..	..	..	..	..	..	1.71	1.64	..	..	..	..	..	1.60	..	..	..	..	..	..
39-39.9	..	..	..	..	..	..	1.77	1.70	..	..	..	..	..	1.65	..	..	..	..	..	..
40-40.9	..	..	..	..	..	..	1.83	1.76	..	..	..	..	..	..	..	..	..	..	..	..
41-41.9	..	..	..	..	..	..	1.89	1.82	..	..	..	..	..	..	..	..	..	..	..	..
42-42.9	..	..	..	..	..	..	1.95	1.88	..	..	..	..	..	..	..	..	..	..	..	..

KETTLEMAN HILLS—55 degree Gravity and above $1.65 per barrel. *Union Oil Company.

The Official Oil Doctor speaks with authority

Assisted by the physical and financial facilities of a complete organization of experts who are unremittingly devoting their energy and resources to the efficient, economical and successful treatment of crude oil emulsions, the Official Oil Doctor is qualified to solve the most intricate "cut oil" problem.

The invaluable service he is thus capable of rendering, is based upon a background of nearly a quarter century of success and undisputable leadership in this work. He will show you how to turn "cut oil" losses into profits, by the exclusive "Petreco" Electrical Dehydration process. Let him submit records of actual installations which have solved obstinate problems for other operators. Place your problem in his hands, and let him diagnose your [illegible] without obligation.

Today—write for the interesting book "The Electrical Process for the Dehydration of Crude Oil Emulsions." It explains everything, giving facts, figures, and illustrations.

[illegible]EYING COMPANY
[illegible]IA
[illegible]West 6th Street,
[illegible]ngeles, Calif.

"PETRECO"

CRUDE OIL PRICE QUOTATIONS (*Continued from Page 82*)

(Magnolia Petroleum Company)
(Effective January 24, 1929)

Mitchell County	$ .65
Howard-Glasscock County (shallow)	.65
Howard-Glasscock County (deep)	.65

Col-Tex Refining Company

Howard and Mitchell Counties	$ .80

MARKHAM
The Texas Company
(Effective January 30, 1929)

All grades	.90

LULING

All grades	.80

NORTH AND CENTRAL TEXAS
(Effective January 24, 1929)
Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs Crude
(Humble Oil and Refining Company)

Below 25	.60
25 to 25.9 gravity	.66
26 to 26.9 gravity	.72
27 to 27.9 gravity	.78
28 to 28.9 gravity	.84
29 to 29.9 gravity	.90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 to 37.9 gravity	1.23
38 to 38.9 gravity	1.26
39 to 39.9 gravity	1.29
40 to 40.9 gravity	1.32
41 to 41.9 gravity	1.35
42 to 42.9 gravity	1.38
43 to 43.9 gravity	1.41
44 and above	1.44

SOUTH TEXAS

Mirando and Salt Flat	.80

GULF COAST
(Effective January 26, 1929)

Grade "A" all companies	1.20
Gulf Coast Light Oil, below 25	1.05
25 to 25.9 gravity	1.07
26 to 26.9 gravity	1.09
27 to 27.9 gravity	1.11
28 to 28.9 gravity	1.13
29 to 29.9 gravity	1.15
30 to 30.9 gravity	1.17
31 to 31.9 gravity	1.19
32 to 32.9 gravity	1.21
33 to 33.9 gravity	1.23
34 to 34.9 gravity	1.25
35 to 35.9 gravity	1.27
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.31
38 to 38.9 gravity	1.33
39 to 39.9 gravity	1.35
40 an above	1.37

***Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9 Its price on all crudes above 35 to $1.37 per barrel.**

Magnolia Petroleum Company's postings stop at 31 to 31.9.

SOMERSET
Grayburg

Below 33 gravity	1.05
33 to 33.9 gravity	1.07
34 to 34.9 gravity	1.09
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.13
37 to 37.9 gravity	1.15
38 and above	1.17

WYOMING-MONTANA
(Effective January 25, 1929)
Wyoming

Byron	**1.33**
Ferris	**1.60**
Elk Basin	**1.36**
Grass Creek	**1.36**
Rock Creek	**1.18**
Lost Soldier	**.95**
Lance Creek	**1.38**
Mule Creek	**1.10**
Notches	**.65**
Big Muddy	**1.28**
Osage	**1.38**
Hamilton Dome	**.85**
Pilot Butte	**1.75**
Torchlight-Greybull	**1.48**
Lander	**.80**
Simpson Ridge	**.80**
Rex Lake	**1.10**
South Casper Creek-Poison Spider	**1.00**

Salt Creek
Midwest Refining Company

29 to 29.9 gravity	.90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 and above	1.23

MONTANA

Sunburst	**$1.65**
Cat Creek	1.48
Lake Basin	**2.20**

NEW MEXICO

Artesia	**1.08**
Hogback	1.43

CANADA
(Effective January 26, 1929)

Oil Springs	1.97
Petrolia	1.90

LOUISIANA-ARKANSAS
(Effective January 26, 1929)
Homer, Haynesville, Caddo, El Dorado, De Soto and Crichton and Cotton Valley*
(Atlantic Oil Producing Company, Standard of Louisiana, Magnolia Petroleum Company and

27 to 27.9 gravity	.78
28 to 28.9 gravity	.84
29 to 29.9 gravity	.90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 to 37.9 gravity	1.23
38 to 38.9 gravity	1.26
39 to 39.9 gravity	1.29
40 to 40.9 gravity	1.32
41 to 41.9 gravity	1.35
42 to 42.9 gravity	1.38
43 to 43.9 gravity	1.41
44 gravity and above	1.44

***Shreveport-Eldorado's postings stop at above 40 gravity.**

The posting on Cotton Valley is same as Caddo. From 36 to 52 and above the regular gravity schedule is followed.

The Texas Company pays North Texas gravity scale in North Louisiana.

STEPHENS
(All Companies)

Below 28 gravity	.70
28 to 28.9 gravity....N	.74
29 to 29.9 gravity	.78
30 to 30.9 gravity	.82
31 to 31.9 gravity	.86
32 gravity and above	.90

SMACKOVER
(All Companies)

Below 24 gravity	.75
24 and above	.90
Bellevue	1.25
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	.85
Calion	.75

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

American Petroleum Institute Figures (Barrels of 42 Gallons)

	Week Ended Feb. 9	Week Ended Feb. 2
AT ATLANTIC COAST PORTS —		
Baltimore	187,000	.....
Boston	65,000	67,000
New York	1,174,000	"A" 1,041,000
Philadelphia	177,000	153,000
Others	291,000	65,000
Total	1,894,000	1,326,000
Daily Average	270,571	189,428
AT GULF COAST PORTS—		
Galveston	.....	.....
New Orleans and Baton Rouge	363,000	"A" 415,000
Port Arthur and Sabine District	.....	62,000
Total	363,000	477,000
Daily Average	51,857	68,143
AT ALL UNITED STATES PORTS—		
Total	2,257,000	1,803,000
Daily Average	322,428	257,571
Daily Average Four Weeks Ended	267,929	234,857

"A" Revised.

RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

American Petroleum Institute Figures (Barrels of 42 Gallons)

	Week Ended Feb. 9	Week Ended Feb. 2
AT ATLANTIC COAST PORTS —		
Baltimore	100,000	104,000
Boston	.....	.....
New York	316,000	236,000
Philadelphia	272,000	60,000
Others	43,000	.....
Total	731,000	400,000
Daily Average	104,429	57,143
AT GULF COAST PORTS—		
Total	.....	.....
Daily Average	.....	.....
AT ATLANTIC AND GULF COAST PORTS—		
Total	731,000	400,000
Daily Average	104,429	57,143
Daily Average Four Weeks Ended	71,643	59,357
Distribution of Total California Oil Receipts is as follows:		
Gasoline	654,000	332,000
Gas Oil	77,000	68,000
Total	731,000	400,000

LET IT SNOW
LET IT BLOW

This winter USE FLYING FUEL IN YOUR CAR.....*fill up with* SINCLAIR *Aircraft* GASOLINE

"*WILL she start for me?*"... remember the many times you asked yourself that question last winter when you stepped into your cold car? This winter that question has been answered for you — answered with a remarkable gasoline that puts a new pleasure into winter driving!

Sinclair Aircraft Gasoline—*Flying fuel,* now available to motorists! The Ace of High Test gasolines that is guaranteed to meet Army, Navy, and Bureau of Mines Specifications for Aviation Gasoline, domestic grade... the gasoline that starts cold engines *fast*... makes cold engines warm *quickly*... keeps them running smoothly without jerks... with never a stutter or sputter, even when you're driving into a zero wind.

Try it in any of your cars—you will use it in all of them. All the family will enjoy the amazing engine performance it gives. Sinclair Aircraft Gasoline—at the Sinclair Pump with the Aircraft Globe.

SINCLAIR REFINING COMPANY, INC., 45 NASSAU STREET, NEW YORK
ATLANTA BOSTON CHICAGO HOUSTON KANSAS CITY

SINCLAIR AIRCRAFT GASOLINE

STARTS COLD ENGINES *FAST*

1929 S. R. C.

Say you saw it in The OIL WEEKLY

North and West Texas Field Notes

H. H. KING, *Staff Representative, Fort Worth, Texas*

Second Producer in Pecos County Wildcat Area

SAN ANGELO, Texas.—An attractive shallow oil pool in northern Pecos County became more definitely assured February 15 when the Pecos Valley Oil Company, which has headquarters at Pasadena, California with a field office at Fort Stockton, Texas, drilled in its second test on fee land flowing by heads at five hour intervals at rate of 80 barrels daily from pay at 1617-1625 feet. This concern's Fee 1 opened the pool November 20, 1928, flowing 120 barrels of clean oil daily from pay at 1626-1628 feet, and has flowed approximately 8000 barrels of oil, with current production averaging 75 barrels daily. The steady performance of the discovery well led to the construction of a 15-mile two-inch line to a six-car rack on the Orient Railroad, and first crude shipments were made on the day prior to the drilling of the second producer. The San Angelo Refining Company has taken a long time contract for a maximum of 600 barrels daily.

The Pecos Valley Oil Company's discovery well is located at the center of the west quarter of Section 22, Block 10, H.&G.N. Ry. Survey, and logged the top of the salt at 1115 feet with a surface elevation of 2501 feet. The second well is located 310 feet north and slightly east of the discovery well, and logged the top of the salt at 1107 feet, with a surface elevation of 2499 feet. The location for the first test was selected by Guy G. Miller, San Angelo consulting geologist. Acreage prices in close vicinity of the discovery lease have been boosted to $1000 per acre, one-half cash and balance payable from oil, while the last batch of close in spreads were recently taken up by Lockhart & Company at $150 per acre cash. More than a half dozen nearby tests are to be drilled near the discovery lease shortly.

The McCarty Oil Company, Wichita Falls, encountered a good show of oil testing 32 gravity in its wildcat test on the A. A. Gray land, located about 5¾ miles south of the above Pecos County wells, from sand topped at 1162 feet, with a surface elevation of 2524 feet. This wildcat is located against the west line of the south quarter of Section 591, Abstract 3010, with shallower dry holes to the south and west. The owners plan to set casing with packer to shut off upper water and make test of oil production. About midway between the above wildcat test and the Pecos Valley Oil Company's producers, C. L. Dittman-Talbot and associates wildcat test on the D. K. Unsicker ranch is making a test of oil and water in hole from sand at 1290-1320 feet, with a total depth of 1365 feet. This test is located in the south quarter of Section 25, Block 10, and is reported to have logged gray lime at 1345 feet, with a surface elevation of 2471 feet. Atlantic Oil Producing Company's wildcat test on the Sellman-White ranch, located about 15 miles west of the Yates field and a mile north of the test was showed for a shallow gasser, has missed the gas horizon, and at late reports was drilling at 1835 feet.

San Angelo.—Important wildcat developments in the West Texas district during the past week centered on northern Pecos County where the Pecos Valley Oil Company's second well on its discovery lease flowed by heads at the rate of 75 barrels daily at 1625 feet and the McCarthy Oil Company's Gray 1, is credited with a hole full of fluid from top of sand at 1162 feet. Talbot & Dittman's wildcat test on the Unsicker land, located about midway between the above two tests, bailed about 10 barrels of oil and considerable water at 1365 feet, but failed to increase oil production when deepened 10 feet.

Extension of the O'Brien pool nearly a half-mile to the south was in prospect early this week when Simms Oil Company-Southwest Oil Production Company's Sealy 1 developed 2000 feet of oil in hole after drilling 26 feet of lime pay to a total depth of 2896 feet. Gulf Production Company drilled a dry hole offsetting the above test to the east recently.

Deep Drilling

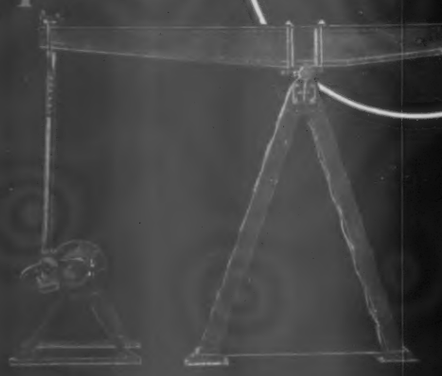
The world's deepest oil well owned by the Texon Oil & Land Company on University fee land, Big Lake field, passed the 100,000 barrel mark on total production within the past week, or within two and one-half months from date of production was first obtained by natural flow from the 8500-8523-foot horizon. This well has about paid out its total expense involved in drilling, as some oil was originally produced from the two regular pays in the field, and also set a new peak on oil and gas flow during the 24-hour gauge ending February 17 when 1970 barrels of 53 gravity oil and 19,285,000 cubic feet of sweet gas was gauged. The oil production dropped 33 barrels on the following day. The unusual performance of this deep producer has resulted in deep exploration work being attempted in other West Texas areas, besides the three deep tests being started by the Big Lake Oil Company in the Big Lake field proper. Kingwood Oil Company's wildcat test on the Sugg ranch, Irion County, is making a try for it, with operations underway at 5815 feet, while J. W. Grant et al's Turney 1, Pecos County, is doing likewise, with a hole down to the 4190-foot level. A few others are also planning to make a try for the deep pay with their wildcat tests.

The slump in field activity and steady encroachment of water in the Hendrick field is cutting down the potential production credited to the second largest producing area in West Texas. According to figures released by Ed. A. Landreth, chairman of the Winkler County proration committee, the Winkler County area showed an estimated potential production of 2,490,775 barrels daily February 15 from 528 wells, or a decrease of 116,891 barrels within the past two weeks. These figures are not indicative of the actual available production should the wells be flowed open for a day or more. Recent water report compiled by scouts in Winkler County credit all wells showing an average of 40 to 50 per cent. water, with a very small percentage free of cut oil. Since the first of the year drilling activity in the Hendrick field has been cut almost 50 per cent. while at the present only 37 tests are drilling, or in process of completion, and seven derricks and rigs. The Southern Crude Interests have 20 of the tests remaining to be completed and four of the rigs up.

Parkersburg

HAS SERVED THE OIL FIELDS OF THE WORLD FOR THIRTY-ONE YEARS

Reduce Well Expense *with* Steel



THE secret of saving money is in the elimination of buying mistakes. For a sure saving in oil well equipment, select steel.

Parkersburg "A" Frame type Steel Jack Posts and Sampson Posts save you money by reducing your maintenance expense, because they are of all-steel construction.

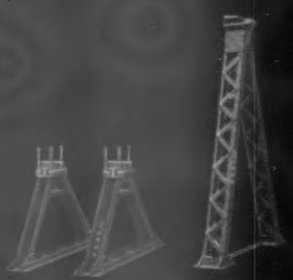
Set on concrete foundations, and with the elimination of sills, this equipment represents a permanent installation at a low cost.

When it is necessary to move to a new location, all material is salvable except anchor bolts in the concrete foundations.

Sampson Posts are furnished in 14 ft. 6 in. and 16 ft. heights. Jack Posts are furnished for 10, 11 or 12 ft. Band Wheels.

The Parkersburg Steel Walking Beam, box girder type, can be supplied in lengths of 24, 26 and 27 feet.

For detailed specifications write for Section "E"—Catalog 26.



Parkersburg Products

Steel Derricks & Steel Crown Blocks ■	Rig Irons (A.P.I. Standard) ■
Chain Driven Sand Reels & Bailing Reels ■	Portable Drilling Machines (Wood & All-Steel) ■
Steel Wheels ■	Bolted Steel Tanks ■
All-Steel Standard Rigs ■	Miscellaneous Drilling Equipment ■

Check the equipment in which you are interested, tear out and return this page, with your name and address, to us, and we will send you complete information on the items checked.

The
PARKERSBURG RIG & REEL COMPANY
Executive Offices & Main Plant, Parkersburg, W. Va., U. S. A.
Sales Offices Maintained and Stocks Carried in Every Producing Field

PARKERSBURG EQUIPMENT THE STANDARD FOR COMPARISON THE WORLD OVER

Oklahoma--Kansas Field Notes

WARREN BAKER, *Staff Representative, Tulsa, Oklahoma*

Curtailment Brings Oklahoma Down With Mission Open

TULSA—Oklahoma's new crude production curtailment program swept into operation over the past weekend. Despite the drilling in of 32 wells in the Mission pool, which raised the recovery of that field better than 21,000 barrels in two days, the production of Greater Seminole dropped 22,410 barrels from Sunday until Monday. The curtailment movement was unable to keep up with the increase during the 24 hours ending at 7 a. m. Sunday, although the initial recovery was much smaller. The next 24-hour period production was pinched to an extent that would have meant a reduction of better than 40,000 barrels had not Mission flowed openly while drilling in the new wells.

Tulsa.—Late completions at Mission sent production to a peak of 33,232 barrels from 67 wells Monday. At the same time Greater Seminole production increased approximately 8,000 barrels to 296,125 barrels.

The increase is due to Mission and the placing of Prairie Oil & Gas Company and Barnsdall Corporation properties back on production after a Sunday lay-off.

Indications are that the Mission pool may respond more favorably to air pressure than expected. Twin-State Oil Company's Judy 2, Section 6-8-6, made 1027 barrels in 10 hours on air from Wilcox sand at 4176-80 feet. Minnehoma Oil Company's Neale 1, Section 7-8-6, made 1224 barrels Monday.

Mission Features Week

The opening of the Mission pool was the important development of the past week. The first 48 hours after the lifting of the production and drilling-in restrictions in this area saw 35 new producing wells; three were making oil and water, and three failures completed. Only a few of the wells flowed, some flowed by heads when swabbed, but practically all of the production was obtained by swabbing. If Mission was permitted to flow open and under air pressure it is probable that its production might exceed the 50,000 barrels now accepted as its potential peak. It will not be pinched until the output of each lease is determined. When the state-wide proration is placed in effect there it is expected to be curtailed 36 per cent. Since most of the wells will be placed on air pressure, some difficulty may be experienced in keeping them from going dead when placed against the back pressure. Many additional completions (about 25) are expected to drill into the pay horizon during the next 10 days or two weeks.

The present drilled in wells pretty well define the producing area, together with former failures in the vicinity. Magnolia Petroleum Company's Aleckey 1, SEc NE NE Section 1-8-5, filled immediately with water and is being abandoned. It is the northwest location of the pool. Two offsets to the well were producers. This was the only defining failure, the others were in the eastern part of producing area.

Production was carried two locations to the west. Darby Petroleum Company's Judy 1, NEc SW SE Section 1-8-5, swabbed 450 barrels of oil and 105 barrels of water from the Wilcox sand at 4343-48 feet. Two locations north, Sinclair-Lenox Companies' Judy 1, swabbed 678 barrels from sand 4415-16½ feet. Gypsy Oil Company's Cosan 3, north offset to Sinclair-Lenox Judy 1, did 480 barrels on the swab from Wilcox sand 4541-44 feet.

None of the completions were of unusual size, conseuently much of the anticipated color accompanying the drilling in of so many wells was lost. Practically all of the other completions, outside of those mentioned, were inside of the proven producing area or offsetting older producers. Practically all of the tests yet to drill in are also on inside locations.

Small Simpson Sand Well in Western Maud

A feature of the Maud pool during the past week was the finding of a small Simpson sand well by Twin State Oil Company's Calvin 2, NW SW Section 7-8-5. This is the first Simpson sand producer in the western half of the Maud field. It failed to produce in the regular Misener and Hunton pays.

The well has a hole of oil from the Simpson sand at 4357 feet. Several flows were made before it bridged, after which it did 405 barrels. Although its performance is nothing to get excited about it shows that oil yet may be found in the formations beneath the Hunton in this particular area.

The most interesting test now going to the Wilcox sand at Maud is the Sunray Oil Company's Stone 1, SWc SE SW 19-8-5, southwest most location in the field. This well topped the Viola lime at 4288 feet during the past week. Correlations based on the top of the Viola show it to be 148 feet higher than the failure of T. B. Slick and White Eagle Oil & Refining Company to the east in Section 20-8-5, and 14 feet higher than the Amerada Petroleum Corporation's old duster in Section 24-8-4 to the west. The latter test had a very good showing of oil in the Wilcox sand.

The east offset to Gypsy Oil Company's Miller 3, Section 18-8-5, which 10 days ago produced about 1000 barrels per hour, came in during the past week. Phillips Petroleum Company placed an extra heavy control-head on Wallace 1, SWc NW SW Section 17-8-5. The well flowed 367 barrels in 16 hours from 14 feet in the Misener sand found at 4014 feet. This completion further reduced the market importance of the big producer, which at the same time was slowing up rapidly in its output, being down to a few thousand barrels daily.

The two new Wilcox producers in eastern Maud were placed on gas pressure, and did better than expected. Barnsdall Corporation's Coker 2, NEc SE SW Section 11-8-5, produced 2820 barrels on compressed gas pressure from the Wilcox sand at 4281-93 feet. Well No. 4, same farm, and one location north, made 2284 barrels on gas lift.

The best Misener sand producer of eastern Maud and one of the few tests to produce from this formation is Prairie Oil & Gas Company's Billington 6, Section 11-8-5, which produced 1600 barrels initial from the Misener horizon at 4040-68 feet. The first Hunton lime well in eastern Maud is the Barnsdall Corporation's Fife 3, NWc SE NW Section 14-8-5. It did 45 barrels in 12 hours on the pump.

Allen Deep Extension Killed

Sinclair Oil & Gas Company is going to have to kill Jefferson 1, SE NE SE Section 23-5n-7e, new deep producer in southwestern Allen field. Gas which broke in from behind the pipe is killing the flow from the Simpson and it will be necessary to reset and recement the casing. It is being loaded with water. It has not made any oil due to the gas that has encroached. The same companies' Jonana 1, NE NW Section 24-5n-7e, found water in the Simpson sand from 4308-4370 feet.

News From California Fields

BRAD MILLS, *Staff Representative, Los Angeles, California*

New Oil Zone Found at 6610 Feet At Santa Fe Springs

LOS ANGELES.—George F. Getty's O'Connell 19, discovery well in the O'Connell zone at Santa Fe Springs, is flowing 1800 barrels of oil and an equal amount of water on production test at 6610 feet. It is believed that the water may be coming from the top of the zone, as there is 150 feet of open hole.

Opening up more than 300 feet of sand between 6300 and 6610 feet, the well offers great possibilities.

Easily within reach of the drill, it will require but a few months to develop the O'Connell zone, provided it proves especially productive.

Content with the developments in the Getty well and willing to risk the result of the test, operators were rushing to the new zone with 24 wells before the test was made. All are drilling below the Buckbee zone and should require less than a month to find the formation. Fully a dozen wells, originally started for the Buckbee zone, will not be stopped short of the O'Connell zone. Many of the wells now drilling below the Buckbee zone missed the formation entirely or failed to flow when tested, and are anxious to retrieve their losses by being the first to reach the sand. There is no evidence that the O'Connell zone will exceed the Buckbee in lateral extent, but indications are that it will.

The Seventh or Clark zone, discovered two weeks ago in the Associated Oil Company's Clark 2, is coming in for much attention, due to its position with reference to the O'Connell zone and the likelihood that it will be productive in many places where the Buckbee zone was a failure.

Test Clark Zone

Richfield Oil Company has cemented a string of seven-inch casing at 7110 feet in Elliott 2, preparatory to testing about 75 feet of the Clark zone. The well was drilled to 7195 feet, but a suspicious gray sand made its appearance below 7185 feet and a plug was set to eliminate the possibility of bottom water. If this test is successful, many wells will be started for the zone.

Efforts are being made to connect the Clark and O'Connell zones, but in the absence of deep tests between the two discovery wells, little has been accomplished. The failure of the Associated Oil Company's Clark 2 and the Richfield Oil Company's Elliott 2 to find the O'Connell zone, although the shale was found, leads geologists to believe that the two zones are formations.

Since George F. Getty's O'Connell 19 stopped 200 feet short of the level at which the Associated Oil Company found the Clark zone, the question of whether the former will be able to produce both as one zone near the center of the field is a very vital one. No gray sand was found in the bottom of the Getty well, the oil sand at the greatest depth having been as good as near the top. If the two zones prove to have no water between them near the top of the structure, it will be possible to produce as much as 600 feet of sand in each well. The thickness of the body will do much to determine the next production peak, as well as the amount of drilling started during the next month. The Meyer zone, present holder of the production record, was not thick, and there is a chance that a new record is in the offing.

Associated Oil Company's Clark 2, discovery well in the Clark zone, will not be tested in the formation at this time. With less than 50 feet of oil sand and a very thin shale body in which to set a string of casing, the company thought it better to explore greater depths before backing up for a test of such a questionable sand. Approaching 7600 feet, the well is the deepest ever drilled in the field.

Produce Two Zones

An important development during the week was the discovery that it will be impossible to produce both the Buckbee and O'Connell zones with one string of casing, even in the center of the field. Both General Petroleum Corporation and Union Oil Company proved this fact, the former with Santa Fe 146-A and the latter with Bell 38. These wells actually cored 500 feet of Buckbee sand before finding gray sand, but were still more than 200 feet short of the top of the O'Connell zone. Incidentally, these wells broke the record for depth in the Buckbee zone, having found a much thicker body than any other wells that have passed through the formation. This distinct break will make it necessary to run an additional string of casing for the deeper O'Connell zone and greatly reduces the potential production of the field.

General Petroleum Corporation's Jalk 111, an important deep test in the south central part of the field, failed to get streaks of oil sand in the O'Connell shale, an unfavorable indication. The well is still drilling in the shale at 6615 feet, with no oil sand in the shale. Failure to find the O'Connell zone at this point would indicate that the zone is no larger than the Buckbee, since Jalk 111 would not produce in the latter.

The discovery of oil in the O'Connell shale in the California-Eastern Oil Company's Santa Fe 2 gives the southwest part of the field a much better appearance and offers a large area a chance at production in the new deep zone. Particularly is this important because more than a dozen wells failed to obtain production in the Buckbee in this sector. Streaks of oil sand in this well and none in General Petroleum Corporation's Jalk 111 seems to limit the producing limits of the zone, however, unless the former finds production below the shale.

The Buckbee zone has suffered an utter lack of attention since the discovery of the O'Connell zone, but in spite of this fact, it remains the chief producer; and the latter may not prove unusually productive. While the formation in some parts of the field has been disappointing, it has yielded many unusual wells. There is also a possibility that operators may be glad to again turn their attention to this sand.

Production Declines

Judging from the action of the field during the past week, peak production either has passed or is right at hand. After a steady climb of seven weeks, the field suffered a net loss of 4000 barrels last week. Although some good wells were completed, the decline was not to be denied and a net loss was recorded for the first time.

Ten wells with a total initial production of about 25,000 barrels were completed. The average initial production was much less than during previous weeks, but showed well, despite the constant release of gas pressure. The field decline was about 28,000 barrels, or an average of more than 300 barrels per well per week.

Of the seven Buckbee zone wells that died week before last, not one was placed

back on production. Various difficulties, including water, sand and mechanical troubles, prevented the successful resumption of operations on any one. These wells would have given the field another gain if found in the producing column.

A total of 100 wells have been completed in the Intermediate and Buckbee zones. The total initial production has been 354,000 barrels, or a well average of 3540 barrels. Of the total number of completed, 14 wells have died. Many wells are standing idle, content to await further developments.

Drilling wells total 186, with 31 additional locations which are expected to be reflected later as drilling wells.

Actual field production at the end of the week was 190,000 barrels, although the weekly average was slightly less.

A dozen wells are ready for completion over the Buckbee zone, with an equal number following within two weeks. If the completions effected next week fail to raise the total, the peak seems definitely past, as far as the Buckbee zone is concerned.

Kettleman Hills Drilling To Be Orderly

Coalinga, Calif.—Preparations for drilling the Kettleman Hills field are being made in a leisurely way, the usual inclination to rush madly into a new district with all resources being totally absent.

Standard Oil Company, owner of about 33,000 acres checkerboarded across the structure, is fully awake to the possibilities of the new field, however, and is planning to drill about 20 wells during the next year. The company has set aside more than $4,000,000 for the immediate development of the field, allowing almost a quarter of a million dollars for each well. The time element has also been considered, with an elapsed time of from six months to one year anticipated for each well. This time may be materially reduced, however. The company's No. 81 has passed 3500 feet and is making remarkable time in a new field.

Associated Oil Company has entered the field again, having located a well on Section 34-22-18.

Marland Oil Company, for whose account the discovery well was originally started, has started drilling in Elliott 2, Section 2-13-24.

George F. Getty, independent operator, is making fast time in Armstrong 1, Section 4-22-17, one of the first wells to get under way.

General Petroleum Corporation is worrying along with Oeschner 1, which is re-drilling at 6350 feet, after plugging back from 6765 feet. The company has also ready to spud in Oeschner 3, Section 20-22-28.

The discovery well is flowing 3900 barrels of 60.6 gravity oil and 45 million cubic feet of gas. The decline during the past month has been negligible.

Make Attempts to Extend Midway-Sunset Area

Taft, Calif.—With the old Midway-Sunset district as a base, a "feeling" for extensions on almost every side of the area is under way. Standard Oil Company and Union Oil Company have acquired acreage in the vicinity of the Sam Emidio Ranch, southwest of the Sunset area and are already developing their holdings on a modest scale. The latter has announced the abandonment of KCL-1, a wildcat test on Section 5-10-21, while the former has reached 3780 feet on Section 35-11-22.

Union Oil Company, one of the oldest operators in the district, is planning a wildcat test on Section 9-11-24, southwest of Maricopa and only a short distance from production in the Sunset field. Other wells have been drilled nearby, but all were abandoned at comparatively shallow depths.

The absence of new developments in the deep sand along the west side of the Midway field has had a slightly depressing effect on future drilling over a wide area. Republic Petroleum Company is bailing No. 32, Section 8-32-23, but cannot obtain commercial production above a plug at 2675 feet. The well also failed to produce from a total depth of 4435 feet.

Thomas H. Purman, following an unsuccessful test of a shallow sand between 850 and 900 feet, is drilling deeper in his wildcat on Section 12-32-23.

Lawndale

Los Angeles.—The discovery of streaks of oil sand at 4950 feet in the Superior Oil Company's Ritter 1 gives the new Lawndale field a much better appearance and gives weight to the theory that the discovery well is located on the edge of the structure. These streaks of oil sand were found much higher than in either of the two producers completed, indicating that the crest of the drilling wave is located in about the right position. At 5175 feet, Superior Oil Company's Ritter 1 continued in the oil sand and shale, with a little more oil in evidence. Developments in this well have dispelled some of the gloom always present when a field is first drilled and was the direct cause of several new wells.

The discovery well was completed around 5850 feet, after cutting streaks of oil sand below 5400 feet. The second completion, which came in with an initial production of 100 barrels, was completed at a similar depth. It is located about 500 feet northeast of the original well.

Several other wells are approaching a critical depth and correlations will be possible in a short time. Richfield Oil Company is approaching 5100 feet in Paul Howard 1, but has failed to find appreciable oil showings. Smith Petroleum Company has changed its plans and will not make a production test of Durand 1, now coring ahead at 5280 feet. This well is located between present production and the center of activity. Standard Oil Company has logged only faint showings in Vance 1, but expects to encounter streaks of oil sand above 5300 feet.

The number of drilling wells has increased to 45, with about 30 additional locations.

Elwood

Santa Babara, Calif.—The belief that Barnsdall Oil Company and the Rio Grande Oil Company, joint discoverers of the Elwood field, control all of the producing leases seems to have been substantiated, judging from the lack of important developments on edge tracts. While all outside leases have not been drilled and there is a possibility of an unexpected trend of production, such a development is not expected. The discovery well is located near the ocean and supposedly near the center of the structure.

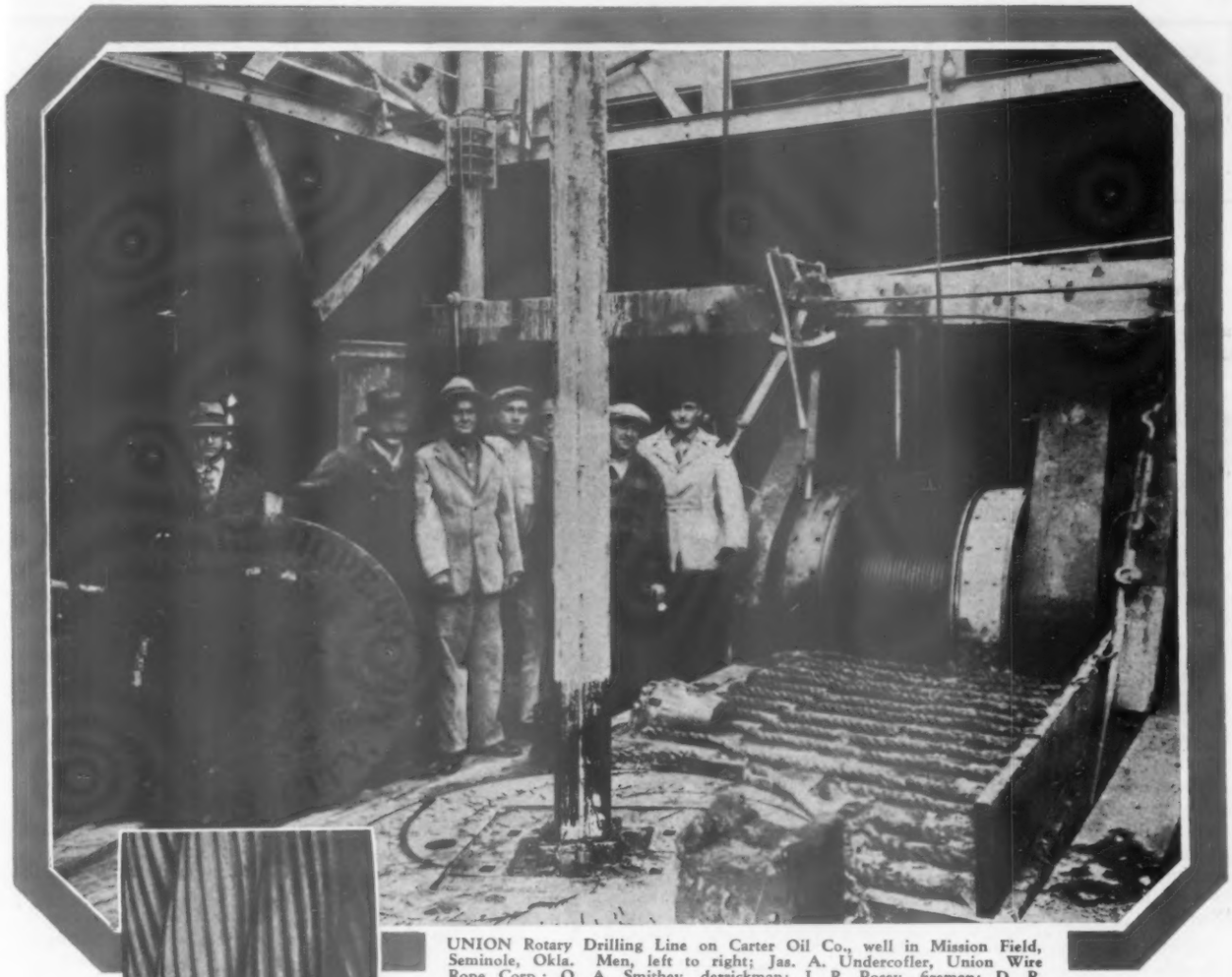
Slight showings have offered an occasional ray of hope to the "outsiders", but these thin stringers of oil sand and shale have proved of little significance. The latest well to develop showings is the Cady Oil Company's Bishop 1, northeast of the present production. Two outpost wells, Petroleum Securities Company's Storke 1 and James O'Donnell's Campbell 1, have passed 5100 feet, with no definite formation in view. Some of the best edge leases have not yet been drilled, giving the northwest flank a chance for production.

With six producing wells, field production is holding to 24,000 barrels daily. The decline from the initial production has been negligible.

Rincon

Ventura, Calif.—Operators in the Rincon field are more interested in recovering the large sums spent in drilling the present producing wells than in completing additional wells. The field presents a series of difficult producing problems, just as new problems were encountered in drilling the wells. The principal producing strata lie between 3000 feet and 4000 feet, with little likelihood of a deeper sand. The decline of the wells from the initial production has been rather rapid, many flowing wells having been placed on the pump or gas lift within a few weeks after completion.

Drilling at 7000 feet in Hobson 1, Richfield Oil Company has not encountered a deep sand worthy of a test. This well is being drilled near Miley-Hobson 1, which failed on a series of production tests around 6500 feet. Although not located in the center of the field, these deep wells probably would have found any zones which might have been productive near the center of the structure.



UNION Rotary Drilling Line on Carter Oil Co., well in Mission Field, Seminole, Okla. Men, left to right; Jas. A. Undercofler, Union Wire Rope Corp.; O. A. Smithey, derrickman; J. R. Posey, fireman; D. R. Carchings, derrickman; H. Bell, floorman; J. T. Reed, driller, and G. D. Craighead, driller.

Union ROTARY Lines

All UNION Wire Lines for the oil industry are designed especially for the work they have to do by men who know from experience the requirements to be met by each line. From drawing and tempering the wire to testing each finished rope, UNION Wire Lines are produced entirely within our own plant.

Operators are invited to test for themselves the exceptional performance of the wire lines built for the oil industry by practical oil men.

UNION WIRE ROPE CORPORATION
3 North Madison Avenue, Tulsa, Oklahoma
JARECKI MFG. COMPANY
Oil Country Distributors, Stocks at All Stores
Oil Country Sales Offices; 820 Kennedy Bldg., Tulsa
Factory: 21st and Manchester, Kansas City, Mo.
Branch Offices and Warehouse: Portland, Ore.

TRADE MARK

UNION WIRE LINES

Say you saw it in The OIL WEEKLY

Gulf Coast Field Developments

JACK LOGAN, *Staff Representative, Houston, Texas*

Second and Third Producer At Hackberry Dome

HOUSTON. — The old Hackberry dome, Cameron Parish, Louisiana, which was opened for commercial production about December 1, 1928, when the Cameron Oil Company and Rycade Oil Corporation jointly completed their Duhon 1 on the south flank of the dome, has again become a center of attention through the completion during the past week of the second and third producers in the field.

Seiss, Green & Sutton's Sanner 3, located 1200 feet northeast (20 degrees north of east) of the discovery well, Cameron Oil Company-Rycade Oil Corporation's Duhon 1, came in flowing 800 barrels of pipe line oil, 23.8 (corrected) gravity, from 3158 feet. The sand from which the oil is coming was topped at 3130 feet, and casing was set at 3125 feet. Location of this well is 1502 feet north and 1345 feet east of the southwest corner of Section 28-12s-10w.

The other new producer at Hackberry is Rycade Oil Corporation's Gulf Land 1. It is on the west side of the dome, about 4000 varas northwest of the Cameron-Rycade Joint Duhon 1, the discovery well of the field. It came in flowing around 100 barrels of fluid per day, 50 per cent. wash water and 50 per cent. oil. This production is from a different sand from that from which oil in the discovery well and the new Seiss, Green & Sutton well is coming. It is from a sand at 4345 feet, about 1200 feet deeper than the producing sand on the south side of the field. Rycade Oil Corporation is preparing to put this well on the beam, and it is estimated that it will pump about 50 barrels per day. Location of this producer is in Section 30-12s-10w.

Besides the two producers, two tests at Hackberry were abandoned during the week. Yount-Lee Oil Company's Perkins 1, located to the east of the new Seiss, Green & Sutton well and the discovery well of the field, was abandoned at 4585 feet. Its location was 2332 feet east and 660 feet north of the southwest corner of Section 28-12s-10w. The other abandoned test was Noble Oil Company's Porter Ellender 3, which was abandoned in heaving shale at 4455 feet. Its location is 300 feet south and 630 feet west of NEC NW Section 27-12s-10w.

Approximately 500 feet south and 500 feet east of the new Seiss, Green & Sutton producer on the Sanner land, the Yount-Lee Oil Company is drilling R. Vincent 1. That test was reported early this week to be drilling at 3940 feet in shale and lime. Yount-Lee Oil Company also has a location for Sanner 1, offsetting the new producer. Other locations in that vicinity include Seiss, Green & Sutton's Sanner 2, Sun Oil Company's Sanner 1 and Sanner 2, and Moon Oil Company's Raymond Sanner 2, the last named location being 1642 feet north and 1345 feet east of the southwest corner of Section 28-12s-10w. Offsetting Gulf Land 1, the new producer on the west flank of the dome, Rycade Oil Corporation is rigging up on Gulf Land 2; and offsetting the discovery well, Duhon 1, the Cameron Oil Company and Rycade Oil Corporation joint interests are drilling at 355 feet in sand and gravel in Duhon 2, which is 150 feet north of No. 1.

In addition to the above named tests, the Hackberry operations now include Cherokee Oil Company's Duhon 1 in the south part of the field near the northwest corner of Section 26-12s-10w, coring at 880 feet; and Charles T. Madison's Duhon 1 drilling at 355 feet.

Moss Bluff

Houston.—Although previous tests have drilled into cap rock at Moss Bluff, Liberty County, the Humble Oil & Refining Company last week first drilled into salt there in Sterling 3, which was abandoned in the salt at 3329 feet. Moss Bluff was discovered by seismograph in 1926, and since then 12 tests have been drilled by the Union Sulphur Company, Sun Oil Company and Humble Oil & Refining Company. Union Sulphur Company's first test, Kyle 1, discovered the dome, hitting cap rock at 860 feet. Although oil shows have been found, no production has yet been developed.

Raccoon Bend

Houston.—Raccoon Bend, Austin County, was extended 2000 feet east late last week when Hardy 2 of the Humble Oil & Refining Company et al, came in as a producer at 3256 feet. The first report on the well showed it flowing 176 barrels of pipe line oil in 12 hours, making 21 degrees corrected gravity, 82 degrees temperature. On Tuesday of this week it was reported flowing 245 barrels per day.

This well is 2000 feet east and slightly north of Beal 1, the nearest producer. Beal 1 was completed January 5, 1928, making 300 barrels on a three-eighths-inch choke, with 25 feet of screen set at 3558 feet.

The new well, Hardy 2, is not quite as deep as the wells on the Gotosky and Grawunder lands in the extreme south end of the field, but is producing about the same grade of oil. Gotosky 3 is 3267 feet deep and making 23 gravity oil, and Grawunder B-1 is 3262 feet deep and making 22.5 gravity oil. Bracey B-1 in the north end of the field is 3357 feet deep and making a very different grade of oil, 31.5 degrees gravity; Bracey A-1 is 3330 feet deep. The Hardy well is northeast of the Bracey A-1. Hardy 1 was a shallow test, abandoned at 1224 feet after testing water.

Two tests at Raccoon Bend, A. Grawunder C-1 and J. C. Walton 2, were due to be drilled in about Wednesday, February 20. The former is 3370 feet and the latter 3272 feet deep.

Barbers Hill

Houston.—Production in the Barbers Hill field averaged 6200 barrels during the week ending February 16, and on Tuesday of this week the two big wells of the field, Yount-Lee Oil Company's Chambers County Agriculture Company 1 on the south flank and Humphreys Corporation's Kirby 1-C on the east side, were still holding up high production rates, the former making 3990 and the latter 1280 barrels.

Humphreys Corporation's Cornelia Barber 1, located on the east side of the field, tested an oil sand at 4949 feet total depth and made salt water. This sand, however, was not the objective of the test, being an upper sand above the horizon from which the Humphreys Corporation's Kirby 1-C is producing; and Cornelia Barber 1 will be deepened to that sand. The pay in the Kirby 1-C is from 5172 to 5231 feet. On this side of the field the Humphreys Corporation has set casing over an oil sand at 5771-5809 feet, and expected to drill the plug on Wednesday of this week. Mills Bennett Production Company's Kirby 2, also in the east side of the field, was drilling hard sandy shale at 5724 feet early this week. Other tests drilling at Barbers Hill on the east and the south sides of the dome have not yet reached particularly interesting levels.

Sugarland

Houston.—Humble Oil & Refining Company extended the Sugarland field, Fort Bend County, slightly to the east early this week with Nelson 1. After being bailed down to 1200 feet, the well came in flowing an estimated 200 barrels net oil, without yet having cleaned itself, and with the oil production increasing. On Tuesday it was reported flowing 270 barrels net oil, still making mud.

With VEZ *on the Lease* . . .

Your Treating Problems *are Solved*

NO matter what the conditions, there is a Vez formula to secure maximum results. Vez breaks emulsions and recovers the oil.

The Vez Company offers an efficient field service to production men. Courtesy and convenience are attributes of our service which functions alike for the small as well as the large consumer.

REPRESENTATIVES IN PRINCIPAL FIELDS

Bristow, Oklahoma
Wewoka, Oklahoma
El Dorado, Kansas
Tullos, Louisiana
Wichita Falls, Texas
Breckenridge, Texas
Luling, Texas
Big Spring, Texas
Wink, Texas
Borger, Texas
Benavides, Texas
El Dorado, Arkansas
Seal Beach, California

The Vez Company

MANUFACTURING CHEMISTS
VEZ *Oil Treating Process*
PATENTS PENDING
DALLAS, TEXAS
2221-3 Laws Street • Telephone 7-4530

ELECTRIC POWER

FOR

OIL WELL

PUMPING

The increased production resulting from electric oil well pumping often more than pays the power bills.

Electric power for oil well pumping is much more dependable than other methods.

Electric power reduces installation and maintenance costs—reduces labor cost and investment hazard.

Investigate electric power for oil well pumping—as well as for pipe line pumping and refinery power needs.

The unmistakable trend is toward electric power for oil field and oil refinery power operations.

Get the facts.

TEXAS POWER & LIGHT COMPANY

General Offices: INTERURBAN BUILDING, DALLAS

"Providing for the oil fields of today; planning for the oil fields of tomorrow."

Say you saw it in The OIL WEEKLY

PERSONAL MENTION-MEN YOU KNOW

Bill Kelly, who has served as production superintendent with several large companies in the San Joaquin Valley, is now superintendent for the Pacific Eastern Production Company, with headquarters at Bakersfield.

J. N. Dwight, formerly with the International Supply Company and the W. C. Norris Company, has joined the Lucey Products Corporation and will make Tulsa his headquarters. D. F. O'Rourke, who has been in the credit department for several years, has been appointed assistant treasurer and will be in charge of the credit department with headquarters at Tulsa. The Lucey Products Corporation has made arrangements with the Buffalo Bolt Company of Buffalo, New York, to introduce their Buffalo Pull Rods and Sucker Rods. Mr. Dwight will be in charge of this department.

W. S. Pillow, vice president and treasurer of the Humble Pipe Line Company, died at a Houston hospital February 16, and was buried in Austin, Texas, his former home. Mr. Pillow had been connected with the Humble Pipe Line Company for 10 years, and was 48 years old at his death. His wife, two sons, W. G. and N. M. Pillow of Houston, his father, B. S. Pillow of Austin, two brothers, J. L. and B. L. Pillow of Baton Rouge, Louisiana, and two sisters, Mrs. J. B. Lubbock of Houston and Mr. Fred Petmecky of Austin, survive him.

G. H. L. Kent, petroleum engineer, Humble Oil & Refining Company, Houston, made a 125-yard shot for a hole-in-one, while playing in a foursome on the Kingsville, Texas, course recently. Dubious persons are requested to write or wire A. L. Kleberg or B. D. Bell of Kingsville, or C. W. Delaney of Houston, other members of the foursome.

Edward L. Doheny, Jr., son of E. L. Doheny, California oil operator, was killed at his Beverly Hills home just before midnight February 16. Theodore H. Plunkett, confidential secretary to Mr. Doheny, following a reported mild controversy concerning Mr. Plunkett's health, shot his employer and committed suicide.

Joseph Jensen, until recently assistant chief geologist of the Associated Oil Company, has been promoted to chief petroleum engineer of the company. Mr. Jensen will have headquarters at Los Angeles.

SHELDON HARDIN

of Fort Worth, president of the Southern Crude Oil Purchasing and Southern Pipe Line Companies, subsidiaries of Pan-American Petroleum and Transport Company

On the occasion of the spring meeting of the Texas-Louisiana-Arkansas division of the American Petroleum Institute, department of Development and Production, which will be held on April 3 and 4, at Dallas, the Dallas Wildcat Committee has issued a general invitation for visiting oil men to participate in a golf game and "other entertainment." The invitation which is signed by Robert R. Penn, chairman of the committee, was mailed out last week.

F. H. Thorp, of the Columbus Sucker Rod Company, Columbus, Ohio, is on an extended automobile trip through the southwestern oil fields.

Edgar H. Bristol, president of The Foxboro Company, Foxboro, Massachusetts, sailed from New York City on the S. S. Santa Teresa, January 31, for an extensive tour through South America.

R. G. "Dick" Reese, formerly geologist and scout for the Associated Oil Company in the Santa Fe Springs, has resigned to become connected with the geological department of the Standard Oil Company of California.

F. L. Cotterman has been made manager of the Houston branch of Whealton & Townsend. The Houston offices are located at 1415 Fannin Street.

S. S. Caldwell, assistant superintendent land department for the Shell Petroleum Corporation in the Central Division with headquarters at Dallas, has resigned to become superintendent of the land department for the Arkansas Fuel Oil Company at Shreveport, Louisiana.

Several important changes in the personnel of the Associated Oil Company's production department have been announced by President Humphreys. L. J. King will continue in charge of production; J. H. Jenkins has been appointed general manager of the producing division; J. A. Jones becomes production manager; Joseph Jensen has been promoted to chief petroleum engineer; L. C. Decius becomes chief geologist in charge of all exploratory geological activities; L. J. Jurs continues as vice president in charge of engineering, transportation and supplies; H. T. Earl is the manager of transportation, and H. B. Haney has been appointed chief engineer.

Lake Charles, La.—The Charleston, 10-story hotel, which has been built by Daley-Moffatt Hotel Company as a result of the rapid growth in the oil industry in South Louisiana within the past few years, is being opened February 25. It was completed early this month at Lyan and Pujo Streets, as the largest hotel between New Orleans and Houston, and is a member of the chain of hotels including the Bender and Cotton in Houston and the Virginia, in Monroe, Louisiana.

M. E. Lombardi, director of Standard Oil Compnay of California, with headquarters at San Francisco, visited the Southern district offices of The California Company, a producing subsidiary, in Dallas, Texas, late last week after inspecting the company's properties in West Texas.

Louisiana-Arkansas Field Notes

Wildcat Between Louann and Stephens Productive

SHREVEPORT, La.—After many setbacks and after one hole was lost in McDonald Brothers' Wilson 1, in Section 25-15-18, Ouachita County, Arkansas, a wildcat almost on a direct line between production in the Louann sector of the old Smackover field, and the Stephens field in Nevada and Columbia Counties, stands with 1200 feet of oil in the hole and preparations are being made to pump the well.

The test is approximately five miles west of Louann production and 10 miles east of proven territory in Stephens. The first hole was drilled 40 feet south of the present test and after making a good show of oil at around 2800 feet had to be junked and abandoned. Several fishing jobs menaced the present test but finally the well was bailed at 2818 feet. About 600 feet of fluid stood in the hole when bailing commenced, part of it oil. After bailing to the bottom, operators decided to drill a few feet further into the sand and at 2828 feet a test showed 1200 feet of oil standing in the hole. The well is believed to be good for 25 to 50 barrels on the beam. The oil taken from the hole tested 30.3 at 78 degrees.

The sand is probably the Blossom and it was tapped approximately 200 feet below the level from which that sand is producing in Smackover. Stephens production is from around 2100 feet, the Nevada County yield being from the 1100-1200-foot horizon.

While the Wilson well apparently is a success, another Arkansas wildcat which had been closely watched, proved disappointing during the week. This was Joe Hurley's Arkansas Land and Timber 1, in Section 29-16-12, Calhoun County, a wildcat approximately 25 miles east of El Dorado. This hole tested dry with a very slight show of oil at 2314 feet and again at 2318 feet. It is being drilled deeper, drilling now being under way at 2618 feet in sandy lime.

Champagnolle

While interest was centered during the week in the wildcat tests in south Arkansas, Champagnolle continued to mark time, although two wells in the older part of the field were completed in the 2800-foot sand, and a good flowing well was added in the northeast extension.

E. C. Johnston, Trustee, plugged back to 2786 feet in Gregory 3, Section 10-17-14, and completed as a 200-barrel producer on the beam. Oil Well Corporation employed similar tactics in Kelly A-2, Section 9-17-14, in the western part of the field and is pumping 360 barrels of fluid from 2824 feet, 10 per cent. water and basic sediment. In the northeast extension Ohio Oil Company added Frazier 2, Section 6-17-13, which is flowing at the daily rate of 266 barrels of clean oil from 19 feet of broken sand with total depth of 3054 feet.

Pine Island

Besides the Champagnolle producers Humble Oil & Refining Company brought in a 35-barrel pumper in Groves B-5, Section 1-14-21, Nevada County, at total depth of 1140 feet. W. D. Chew's Fee 8, Section 33-21-16, Pine Island district, Caddo Parish, Louisiana, pumping 20 barrels, completed the week's list of producers.

Seven gassers, five in the Bethany gas area of Panola County, Texas, were added in the Shreveport area. None of the gassers exceeded five million feet except United Carbon Company's Nelson Fee 3, Section 6-19-5e, Ouachita Parish, Monroe field, which gauged 16 million feet at 2139 feet.

Phillips Petroleum Company's B. Joyce 20 in Section 33-15-15, Ouachita County, Smackover field, was drilled to 3264 feet, the same level as deeper production at Champagnolle, but tested salt water and was abandoned. The third and deepest production in Smackover is around 2600-2700 feet. In Union County, Tharpe Drilling Company, which has been shut down for some time in List 1, a wildcat in 25-17-15, finally abandoned the hole as a duster at 3050 feet.

Only six new locations were announced during the last week, three in Louisiana and three in Arkansas. Two of the Louisiana locations were for the Monroe gas field. They are Southern Carbon Company's Tensas Delta 9 in Section 2-20-4e, Morehouse Parish, and the same company's Fairbanks 11 in Section 33-20-4e, Ouachita Parish. S. D. McDaniels made location for another wildcat in Natchitoches Parish, Clark-Morse Lumber Company 2 in Section 23-5-6w.

Champagnolle received one of the new Arkansas locations, Sam Richardson's Lawton 7 in Section 10-17-14, where derrick is already up. Louisiana Oil Refining Corporation has made location for its first well on a new block of acreage recently acquired in Union County. The new test is Manley 1, 361 feet north and 347 feet west of the southeast corner of Section 15-15-19. In Ouachita County, Little Fay Oil Company is building derrick for Goodwin 1 in NE NW Section 13-15-16.

Test Nacatosh

Humble Oil & Refining Company during the week announced plans to go into two old wells in the Union County portion of Smackover and perforate casing at the Nacatosh sand. These two wells are B. Goodwin 5 and Latark Fee 2, both in Section 3-16-15. Shell Petroleum Corporation plans to do likewise in Snyder 4 in Section 33-15-15, Ouachita County.

Besides the wildcats already mentioned several others in the territory continue to be of interest. Dixie Oil Company has a fishing job in Gilbert 1, a deep test in Section 27-21-5w, Claiborne Parish, at 5002 feet, with total depth of 5007 feet. Smitherman & McDonald's Miller 1, a deep test in the old Haynesville field of the same parish, is drilling at 4586 feet. A. C. Glassell, who has taken an interest in El Dorado Chief Oil Company's Baker 1, a wildcat in Section 26-20-7, Claiborne Parish, had the well cored a little below 2170 feet, a dry core being obtained. The well is being drilled deeper.

Carlton Drilling Company's Stephens 2, a DeSoto Parish wildcat, in Section 12-11-16, tested 300 feet of fluid, 50 per cent. salt water at 1970 feet, and will be deepened. On the southwest side of Sarepta, Webster Parish, where several producers have recently opened a small oil field, Magnolia Petroleum Company bids fair to obtain another producer in Denman 1 in Section 1-22-11, an oil sand having been encountered from 2703 to 2710 feet. Eight and one-eighth-inch casing was set at 2702 feet.

Two deep tests in Arkansas are being watched closely. Lion Oil Refining Company is drilling at 4400 feet in red beds in Union Sawmill Company 5 in Section 7-17-13, in the northeast extension of Champagnolle, and Calgo Oil Company is down to 4125 feet in Primm 1, a wildcat in Section 9-18-17, Union County. In Miller County E. A. Martin, Trustee, is drilling at 3110 feet in Dale 4, Section 23-15-20. Charles McDonald's Wilson 1, an offset in the same section with McDonald Brothers Wilson 1, is shut down at 2585 feet for fuel.

SEND FOR OUR CATALOG !

Curtis & Curtis

This Curtis & Curtis Pipe Threading Machine Was Built For The Oil Fields

Operators in the oil fields using Curtis & Curtis Machines are completely satisfied with the threads they produce. And Why Not! Advanced engineering keeps "Curtis" a step ahead. Precision workmanship and the highest grade materials reduce servicing and increase its usage time. Pipe threaded by a Curtis Machine holds tight —because the threads cut are good threads.

"Curtis" Features are Not Found In Other Machines

Curtis Machines represent the best dollar value to be had. Their first cost is less; take less power to run, are less in weight and take less floor space. A Curtis portable machine can be moved around in the field right up to the job. Threads are made economically for every oil field operation.

No. 258 Direct-Connected Electric, range 1 to 6" R. H.

Write and ask us about the automatic features of Curtis Machines. If you are without power, ask us how easy it is to operate a Curtis by hand power.

CURTIS AND CURTIS COMPANY

315 Garden St.
BRIDGEPORT, CONN.

Texas Fault Zone Field Work at Low Ebb in 1928
(Continued from page 63)

produced 2,517,745 barrels during 1928, thereby boosting its total recovery to 84,825,370 barrels. This field produced 3,622,385 barrels in 1927 and 4,769,718 barrels in 1926, thus displaying more lasting qualities than the Corsicana-Powell field as the years pile up. However, the flush production was not skimmed off the Mexia field at anything like the rate taken during the first year that the Corsicana-Powell field was on production. The latter field made a record of about 357,000 barrels daily for a single day in November, 1923.

Wortham

The Wortham field, which has proven to be the last important strike made in this district from a crude market standpoint, is dropping rapidly on production, having yielded 647,480 barrels during 1928, as compared to 1,134,231 barrels in 1927 and 2,801,124 barrels in 1926. This field has produced a total of 21,418,312 barrels from time of discovery in November, 1924, to the close of 1928. The Richland and Currie fields are taking a smaller decline rate, and total recovery from the former was 6,339,226 barrels and the latter 5,995,788 barrels at the close of 1928.

The Nigger Creek and Cedar Creek fields are located on a separate zone of faulting than that bearing the other five fields, but are producing from the Woodbine sand. Total production of the Nigger Creek field was placed at 2,767,093 barrels at the close of 1928, or at the rate of 16,277 barrels per acre, while the Cedar Creek pool has contributed 233,745 barrels of oil, or about 9346 barrels per acre.

Acreage Yields

The Corsicana-Powell field is credited with a total crude yield of 37,696 barrels per acre, including the shallow pay production, while the Wortham field ranks second with a yield of 29,956 barrels per acre. The Mexia field ranks fourth with 22,803 barrels per acre, having been bested by Richland with a yield of 26,413 barrels per acre. The district is credited with a total recovery of 28,053 barrels per acre, with 7895 acres total in the seven fields.

Producing properties in the East Central Texas fault zone involved in the 33,333,333 barrel crude contract made in November, 1921, by the late Col. A. E. Humphreys and his associated companies with the Continental Trading Company of Canada now promise to fulfill outstanding deliveries, although the last barrel will be quite a few years hence in arriving. This contract covered one-half of the production of the Humphreys Interests at a flat price of $1.50 per barrel at the well, and the price has been nearly an average of that prevailing in the district since the making of the contract, although the sellers now have an advantage of about 25 cents per barrel on the current crude postings. The Pure Oil Company now owns the properties involved in this contract, and is delivering one-half of its production on the contract, with Sinclair Pipe Line Company running one-quarter and Prairie Pipe Line Company running the other quarter interest. About 30,000,000 barrels had been delivered up until the close of 1928. Shortly after Col. Humphreys opened the Wortham field while operating as the Boyd Oil Company, 3,000,000 barrels of oil to be furnished from three-fourths of daily production was sold to the Prairie Oil & Gas Company at a flat price of $1.25 per barrel. This contract was made early in December, 1924, and the other one-quarter interest in the production was contracted at the same price by Sinclair Crude Oil Purchasing Company. Pure Oil Company acquired the properties involved in these two contracts in 1925, and is fulfilling the terms of the contracts, with about 180,000 barrels remaining to be delivered to Prairie Oil & Gas Company.

West Texas Wildcat Effort Nets 13 New Producing Spots
(Continued from page 56)

leases before the end of the year, but flush production is lacking and average sized pumpers is the most to be expected.

Pecos and Ward Counties

Two successful wildcat completions made in November within 15 miles of each other, being located in Northern Pecos County and Southeastern Ward County are believed to be the forerunners of important oil producing areas in virgin territory. The Pecos Valley Oil Company's Pecos Land Company Fee 1, gave Pecos County its only flowing well outside the Yates field, after tapping sand horizon at 1626-28 feet for an initial flow of 120 barrels clean oil daily, and before the close of 1928 more than a half-dozen nearby tests had been booked. An active drilling campaign in this area in 1929 hinges on the outcome of the first group of completions. Shipley Oil Corpoqration's wildcat efforts on the S. F. Hayzlett farm, Ward County, preceded the above strike by several weeks with an initial flow of 125 barrels of oil daily from one foot of pay drilled at 2481 feet, and has likewise been directly responsible for the early drilling of about a half dozen tests on nearby leases. A number of dry holes practically eliminates the possibilities of the above two areas being connected up by drilling.

Commercial gas wells on wildcat acreage in Runnels and Ward Counties were scored in 1928, and Reagan and Irion Counties added a pool each with small pumpers.

Hendrick Field

The Hendrick field, Winkler County, took the lead over all fields in the state on drilling during 1928, and added slightly more than 400 producers during the year, with a combined estimated initial flow of about 2,500,000 barrels, but owing to proration restrictions placed on the field in May, 1928, the actual daily production barely passed the 300,000 barrel mark. This high figure was reached just a few days prior to the enforcement of proration restrictions of 150,000 barrels daily. The highest daily production given the field is 175,000 barrels. Except for the development of the south end of the structure, the Hendrick field will contribute comparatively little new production during 1929, and probably slightly less than one-half the number of completions recorded during the year just ended.

Yates Field

The Yates field, which has had production restrictions from the beginning and at no time has the daily output exceeded the 100,000-barrel mark, added 185 producing wells during 1928, with an estimated combined initial flow of about 1,165,000 barrels. Owing to a change in proration rules towards the close of 1928, field work dropped to a minimum, and comparatively little new work will take place in 1929, since existing proration laws kill the incentive to drill up the many hundred proven locations.

Howard County, including a few wells on the north line of Glasscock County, was one of the most active drilling centers in the West Texas district during 1928, owing to the development of the original deep pay horizons in the Roberts-Chalk-Clay area, and shallow sands. Although this activity offers promise of moderating somewhat during 1929, because of the deep pay area being defined and about drilled up as far as proration rules will permit, the shallow pay will provide several hundred new wells.

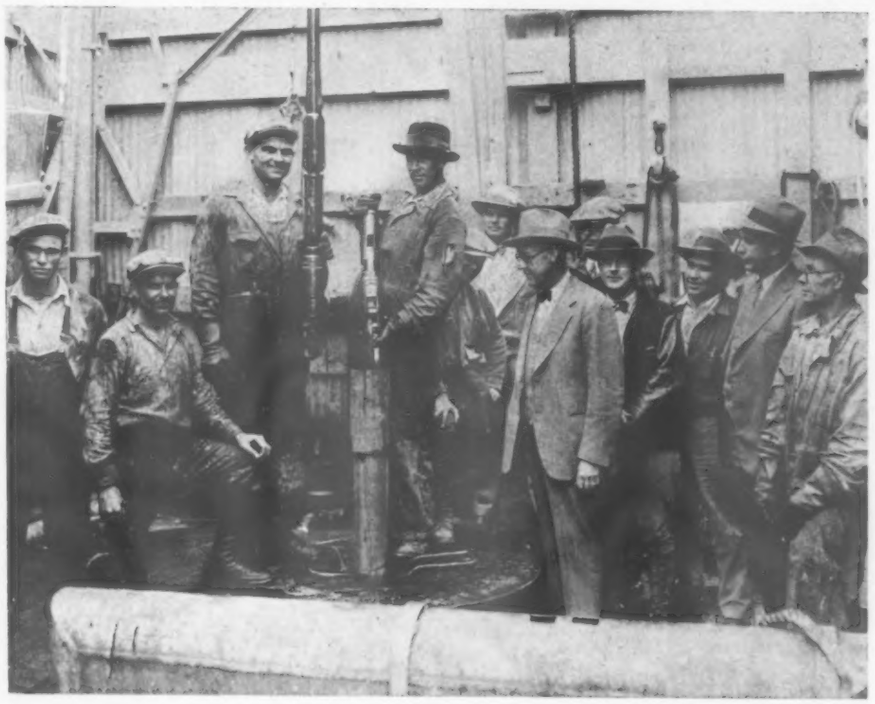
Crane, Upton and Crockett Counties passed out of the picture during the early part of 1929 as being important sources of new developments, and production also registered a sharp decline in each county, with no encouragement of a revival of activity.

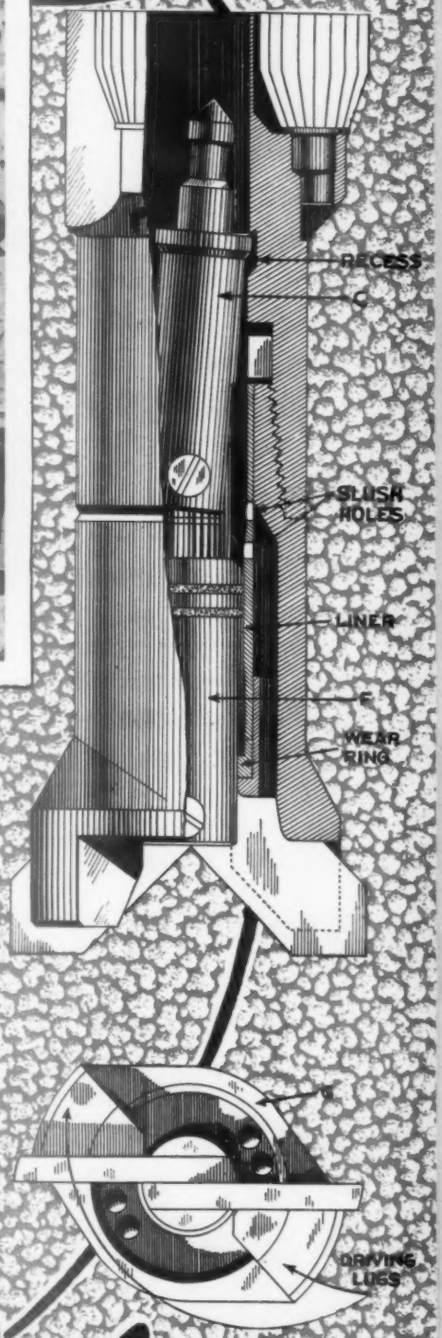
Will Make Second Test of Ventura Well

Ventura, Calif.—Bolsa Chica Oil Corporation is not satisfied with the action of its Hartman 2, recently completed with an initial production of less than 200 barrels, and is preparing to clean out the well for another production test. Drilled to 7300 feet, the well is not a paying producer. The action of the well indicates that a bridge has formed, shutting off the greater part of the producing sand. A small production from 7300 feet is unusual in the Ventura field and if it is found that the well is producing at its best, edge leases probably will suffer from lack of drilling.

The average initial production of completions in the field is much smaller than at the same time last year. Ventura, due to the great cost of drilling wells to 7000 feet, is expected to show less activity when the gas pressure declines than shallower fields of the state have shown. A small initial production will undoubtedly mean that a well must produce consistently for several years to return the original investment to its owner. The total number of producing wells is 133, with a daily production of 55,000. Shut in production amounts to 10,000 barrels.

The Newer Way





The simplicity of the mechanical principles of the Reed Wire Line Bit recommend it to forward looking operators seeking reduced footage costs.

Strongly constructed, with a minimum number of working parts, its advantages over the old style scrape type bit are obvious.

Specially treated hard surfaced blades are dropped *through* the drill pipe on a short car-

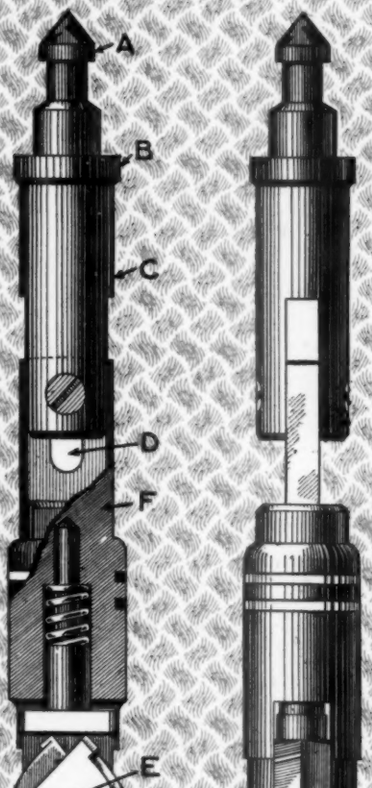
# of Doing

An Old Job

rier which locks in place in the head before drilling can commence.

An overshot on a wire line picks up dull blades *through* the pipe and round-trips at 5000 feet have been accomplished in 30 minutes time.

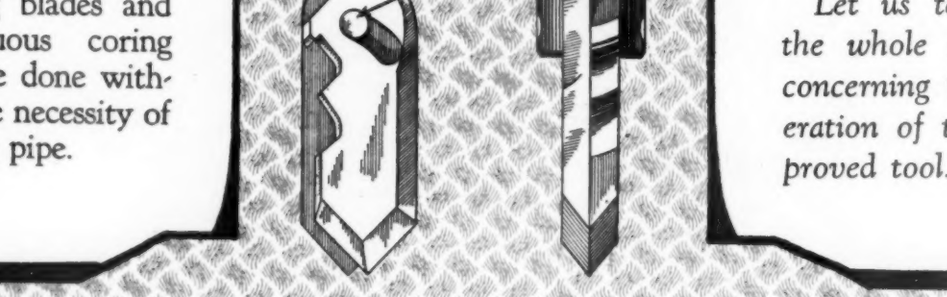
A core barrel is operated in exactly the same manner as cutting blades and continuous coring may be done without the necessity of pulling pipe.



A four-point reamer directly following cutter blades assures a straight full-gage hole without the necessity for after reaming.

Reed Wire Line Bits are manufactured to operate *through* 3-in., 4-in., 5-in. and 6-in. standard A. P. I. Drill Pipe.

Let us tell you the whole story concerning the operation of this improved tool.



Reed Roller Bit Co.

HOUSTON LOS ANGELES

Mexico Continues Downward Trend--Production and Drilling

By GEORGE BLARDONE

PRODUCTION of petroleum in the Republic of Mexico during 1928 can be placed at 50,417,066 barrels, a decrease, when compared with production during 1927, of 13,714,307 barrels. The loss in production can be charged directly to the productive areas of the north and south fields in the Tampico-Tuxpam embayments, as the Isthmus of Tehuantepec district showed an increase.

The vessel movement of petroleum, crude and refined, during the year from Mexican ports of primary clearance (Tampico and Tuxpam) totaled 35,182,790 barrels, a decrease, when compared with the 1927 movement, of 19,079,951 barrels. The marked discrepancy between this decrease in vessel movement in 1928, and a minor decrease in production during the same year, can be charged to the fact that in 1927 nearly 5,000,000 barrels of crude was imported from Venezuela for refining purposes, which volume necessarily figured in outbound vessel movements during that year and consequently inflated the 1927 vessel movement to a point that comparison with a similar movement in 1928 has no particular bearing, in fact, on production figures; this again being in evidence when the subjoined storage table is reviewed, for the end of 1928 found more oil in storage in Mexico than was in evidence the first of the year.

With this explanation, the distribution of petroleum and its products during 1928 can be visualized approximately as follows:

Visible Exports	31,537,406
Coastwise Movement	[1]3,645,384
Visible Domestic Consumption	14,713,276
Passed to Storage in 1928	521,000
To total (to balance)	50,417,066

Reduced to tables, production in 1928, and the vessel movement during that year, was as follows:

Production

Northern Fields (heavy gravity)	24,853,646
Southern Fields (light gravity)	22,663,420
Isthmus of Tehuantepec (light gravity)	2,900,000
Total 1928	50,417,066
Total 1927	64,131,373
Decrease 1928	13,714,307

Vessel Movement

From—	
Tampico	33,513,039
Tuxpam	1,669,751
Total 1928	35,182,790
Total 1927	54,262,741
Decrease 1928	19,079,951

Field Operations

The outstanding fact concerning field operations in Mexico during 1928 was the repeated failure of wildcat operations. In the recognized petrolific areas of Northern Vera Cruz and Southern Tamaulipas —usually referred to as the Tampico-Tuxpam embayments—of 21 wildcat tests finished during the year under discussion all were failures, save one. Two deep tests in the state of Coahuila were abandoned during the year; and it is possible that there were other failures drilled to completion near the Rio Grande in Northern Tamaulipas, but no record is in hand concerning this part of the republic.

The one wildcat well that finished in the pay in 1928 was Mexican Eagle Oil Company's Mecatepec 1, completed the first of the year in the extensive San Miguel de Mecatepec, which is controlled in toto by that company. This property lies north of the Furbero field, a distance of some 15 kilometers. The well had an estimated initial flush production of 7000 barrels. Two other tests there continue making hole, both of which are now deeper than the discovery, with no showing reported.

The most interesting wildcat in this southern district, initiated and drilled during the year, was Union Oil Company's California Miahuapam 1, in the area of that name, 20 kilometers northwest of the Mecatepec holding.

The drilling of this test signalized the re-entrance of the Union Oil Company as an active participant in field operations in Mexico after an absence of seven years. The gods were not propitious, however; and the hole has been abandoned, a duster, at 4247 feet, with no showings reported. At this writing, Union Oil Company has made no move toward continuing operations.

South Fields

A summary of field operations in the south fields district during the year shows a total of 30 producing wells finished in proven areas, and the one producing wildcat noted above. There were 39 failures finished, of which number six were wildcats. The total number of tests drilled to completion was 70.

Of the producing wells completed during the year in the south fields, Penn Mex Fuel Company, drilling in Alamo-Jardin-Paso Real sectors, directly south of the Tuxpam River, was the most active operator, and consequently finished the largest number of wells. In the last six months of the year this company finished 21 holes, 14 of which were producing wells, with an initial flush production of 30,000 barrels. Unfortunately, however, water levels are so well advanced that initial production is of necessity quickly retarded in order to reduce the ever present danger of fatal saline invasions.

There were no pay completions of importance completed in other proven areas of the south fields during the year. And among the other wildcat failures was another dry hole drilled by the Atlantic Refining Company in Aguada, and a salt water well finished by Mexican Eagle Oil Company in Lake Tamiahua.

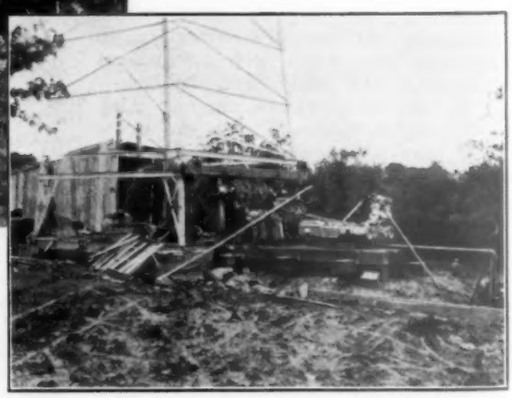
Northern Fields

In the northern fields there was finished during the year a total of 219 wells, of

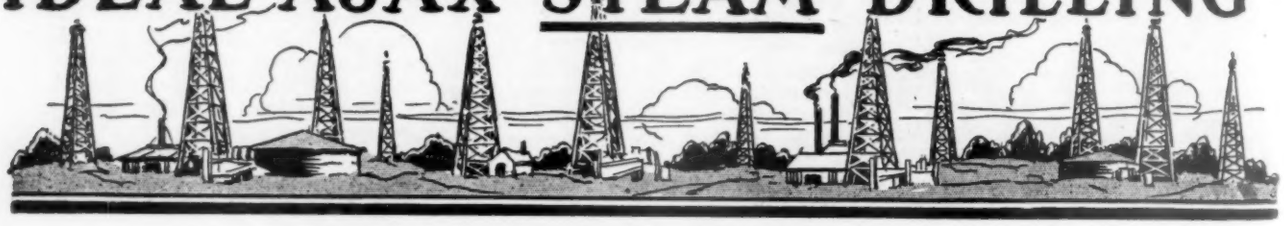
[1]Approximately 40 per cent. of the coastwise movement eventually found its way to export markets as refined products from Mexican Eagle Oil Company's refinery at Minatitlan, Isthmus of Tehuantepec. The remainder was consumed in the country. The exact division of this coastwise is not in hand, hence the terms "Visible Exports" and "Visible Domestic Consumption." Bunker oil furnished steamers are of necessity included in the vessel movement.

AJAX Engines Have

Sinclair Oil & Gas Co. Williams No. 1, in 15-7-6. The New Ajax with Timken Roller Bearings, Balanced Piston Valves and Steam Separator with Automatic Trap being rigged up to a Halliburton Drilling Control



IDEAL-AJAX STEAM DRILLING



Several New Values

SPEED with more power that is dependable . . . a new durability with freedom from shutdowns for adjustments and repairs . . . practical operating tests in the field to prove dependability . . . mark another step in the advancement of Ajax Engines for all drilling requirements.

Ajax, so long known in international as well as in all the American fields, is establishing a new record.

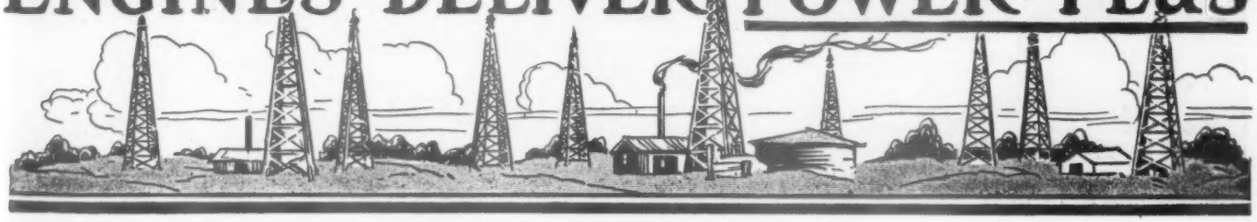
Factory and Service in up-to-date equipment and methods have kept pace with the policy of keeping Ajax well in advance of standard practice.

Ask a NATIONAL SUPPLY man to explain to you the new *Timken Roller Bearing Engine with Balanced Piston Valves and Steam Separator with Automatic Trap.*

AJAX IRON WORKS
Corry, Pa.

DISTRIBUTED BY
THE NATIONAL SUPPLY COMPANIES

ENGINES DELIVER POWER-PLUS



Say you saw it in The OIL WEEKLY

which 70 finished in the pay and 149 were failures. Of this number of completions 14 were wildcats, all of which were failures. Of the latter, eight were located in the southern part of the State of Tamaulipas, the remainder being in northern Vera Cruz, or just across the line in the State of San Luis Potosi.

Interest in northern field wildcats centered on the tests drilled in the southern part of Tamaulipas. Here operating subsidiaries of the Standard Oil Company of Indiana, the Standard Oil Company of New Jersey, the Henry L. Doherty interests and the Royal Dutch-Shell Group drilled failures on their respective holdings during the year. As 1929 arrived, all of these interests had dropped out of the drilling reports, save the Doherty subsidiary (Empire Gas and Fuel Company), which was drilling an apparent dry hole to completion in the Altamira sector, and was rigging up over another location there.

The only showings reported in these Tamaulipas wildcat operations were in two tests drilled by Cia. Petrolera Olympia (Standard Oil Company of New Jersey), which, in Las Rayas 1, located in the Magiscatzin area, had a showing of oil and gas at 3185 feet, and again at 3270 feet, finishing dry at 3815 feet. And Cardiel 1, same district, had some gas showings at 2545 feet, but finished dry at 2755 feet.

In the proven area of the northern fields there was not one single well finishing in the pay during 1928 sufficiently outstanding to warrant comment. As this is written, the latter part of January, it might be remarked that on January 15, of the current year, some excitement was caused by the completion of the Standard Drilling Company's Tarasco 2, located in Lot 27, Paciencia de Aguacate, a sector of the Topila field. This well came in at 2285 feet, filling a 1000-barrel tank in one hour, gate valve barely cracked, flowing pressure 500 pounds, rock pressure 800 pounds.

On its face, this is a splendid well. Its depth is in its favor (the sector considered), but the history of Paciencia de Aguacate is not. There have been one or two instances of other wells being finished in this sector with much acclaim (The Texas Company of Mexico drilled one such), but they did not last. Paciencia de Aguacate's best well was one that came in for an initial production of around 1100 barrels, gradually climbed to around 1500 barrels, and held this production for several years. The sector has long been virtually abandoned by operators, large and small, with the possible exception of two or three strings of tools in operation, of which Tarasco 2 was an example. Judgment on this new completion in 1929 will be held in reserve by operators who know the sector.

Tehuantepec

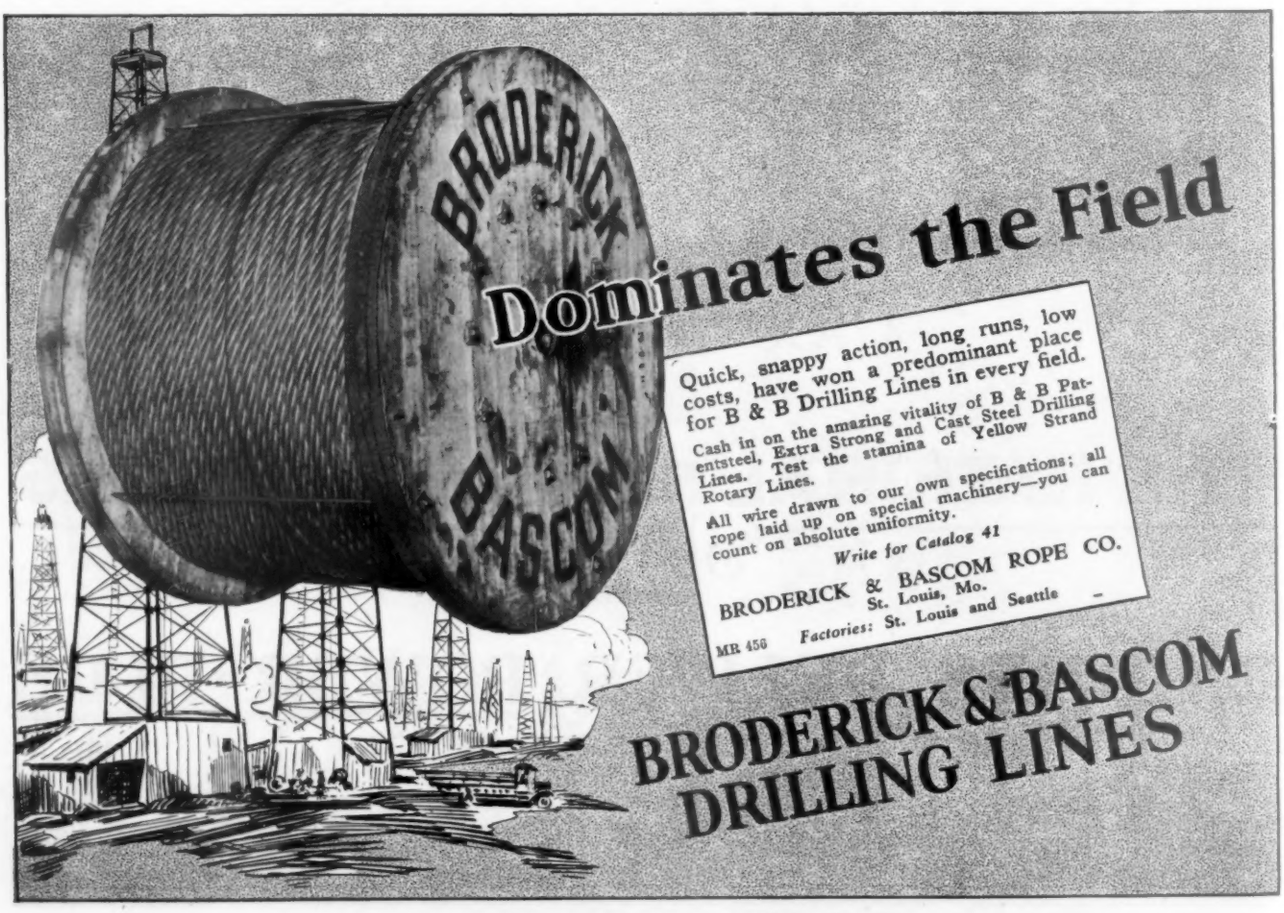
The one producing district in Mexico that showed an increase in operations and in production during 1928 was the Isthmus of Tehuantepec. In this area Mexican Eagle Oil Company, Ltd., of the Royal Dutch-Shell Group, was the only active company. It drilled to completion 48 wells during the year, 30 of which finished as producers of oil and one was a gas well. The latter, Belem 2, is located in the State of Tabasco. Seventeen tests were failures.

In 1926 Mexican Eagle Oil Company finished only 28 wells in the district under discussion; and in 1927 it finished 33.

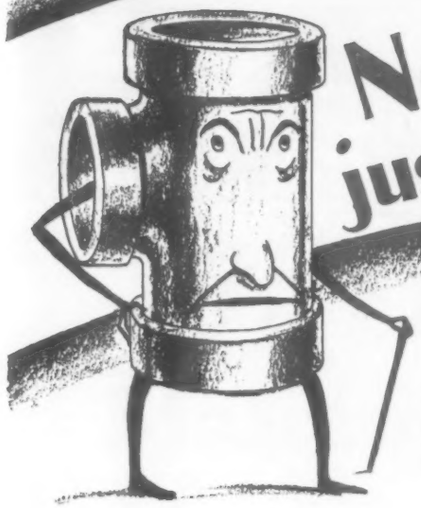
The Isthmus production during 1928 was 2,900,000 barrels, a slight increase over the figures for 1927 when 2,769,000 barrels was produced. The slight increase occurred the latter part of the year, and can be credited to pay completions in the final six-month period.

The production increase in the Isthmus over a period of years, however, has been fairly steady since Mexican Eagle Oil Company resumed serious operations there in 1925. In the preceding year (1924) only four wells were drilled to completion; and the production that year was only 50,000 barrels. In 1925, 20 wells were completed, 14 of which were producers; and the production that year increased to 248,000 barrels. In 1926 the production was 1,309,000 barrels.

Unlike the productive areas in the Tampico-Tuxpam embayments, the pools in the Isthmus of Tehuantepec are, in the main, salt dome formations similar to the salt dome fields in Coastal Texas and Louisiana. The gravity of the oils recovered in this district is relatively higher than is the gravity of the oils recovered in the south


BRODERICK & BASCOM
Dominates the Field
Quick, snappy action, long runs, low costs, have won a predominant place for B & B Drilling Lines in every field.
Cash in on the amazing vitality of B & B Patentsteel, Extra Strong and Cast Steel Drilling Lines. Test the stamina of Yellow Strand Rotary Lines.
All wire drawn to our own specifications; all rope laid up on special machinery—you can count on absolute uniformity.
Write for Catalog 41
BRODERICK & BASCOM ROPE CO.
St. Louis, Mo.
MR 456 Factories: St. Louis and Seattle
BRODERICK & BASCOM DRILLING LINES

Say you saw it in The OIL WEEKLY



Not Hurt---just terribly disappointed

JOHN ("*Rusty*") TEE, former national champion wrench baffler, named by some experts as the stubbornest single piece of pipe of all time, protests against the rough treatment he received at the hands of a Trimo pipe wrench:

"No, I'm not hurt," he admitted, "not even scratched; just terribly disappointed. I would still be holding the title today if they had not used an Improved and Mightier Trimo on me. No pipe can stand that. Ordinary pipe wrenches could never budge me. I consider it was unsportsmanlike to use a Trimo."

Let's not be sentimental, fellows, about pipe work. When pipes put up a fight, let Improved and Mightier Trimo give them the works.

Hardware and Supply Dealers Everywhere Sell

TRIMO

TRIMONT MFG. CO., INC.
ROXBURY (BOSTON), MASS.

IMPROVED and MIGHTIER

PROTECTING The PRICE of BORGER CRUDE

The illustration above shows two 3,000-barrel MALONEYS in use by the Dixon Creek Oil Company at Borger, Texas, protecting the price of their crude oil contents by preventing evaporation from reducing the gravity.

MADE OF KEYSTONE COPPER STEEL

THE MALONEY TANK MFG. CO.
Tulsa, Okla., U. S. A.
Distributors at All Principal Petroleum Points

MADE OF KEYSTONE COPPER STEEL

Sizes: 12 to 10,000 Barrels — Packed in Steel-Bound Crates for Export.

MALONEY

SWEETWATER

9 BIG REASONS *for* Sweetwater

Excellent Shipping Facilities.
Close Proximity to the Oil Fields.
Lower Freight Rates from Manufacturing Centers.
Low Electric, Gas and Power Rates.
Good Warehouse and Trackage Facilities.
Modern Office Buildings.
Ample Hotel Accommodations.
A-1 Rated Public Schools.
Ideal Living Conditions.

These are the factors that make Sweetwater an ideal location for manufacturers and distributors.

Six Railroad Outlets

SWEETWATER DISTRIBUTING CENTER OF WEST TEXAS

For Further Information
BOARD OF CITY DEVELOPMENT
Sweetwater Texas

fields areas of the Tuxpam embayment, ranging from a low of 21 degrees Baume to 34 degrees on the same scale, the higher range being more in evidence. An exception during 1928 was a completion at Teapa, where a well, finished early in the year, came in for an initial production of 500 barrels, gravity 40 degrees Baume.

In this connection, it is interesting to note that in this Isthmus country the larger the well the higher the gravity appears to range.

A condensed table of field operations in 1928 in recognized districts gives the following:

Well Completions

Fields—	Comp.	Producers	Gas	Failures
North Fields	219	70		149
South Fields	70	31		39
Isthmus Tehuantepec.	48	30	1	17
Total 1928	337	131	1	205
Total 1927	569	182	0	387
Decrease 1928	232	51	1	182

Oils in Storage

Oils, crude and refined, held in steel storage in the Tampico-Tuxpam districts on January 1, 1929, can be placed at 14,800,000 barrels, an increase of 521,000 barrels when compared with the storage figures as of January 1, 1928. Storage statistics for the Isthmus of Tehuantepec are not in hand, but Isthmian storage is negligible.

Of the oils in storage on the first of the current year the following divisions are approximately correct: heavy crude, 6,500,000; light crude, 1,700,000; topped crude (fuel) and other refined, 6,600,000 barrels.

Conclusion

If there is to be any renassiance of the petroleum industry in Mexico during 1929 it is not apparent at this writing. The major companies are, apparently, merely marking time insofar as field operations are concerned. The Penn Mex Fuel Company and the Mexican Sinclair Petroleum Corporation, are the most active, each company keeping less than 10 strings of tools in operation. Such outstanding companies as the Standard Oil Company of Indiana's subsidiaries, the Standard Oil Company of New Jersey, the Royal Dutch-Shell Group (except Mexican Eagle Oil Company in the Isthmus of Tehuantepec, where it keeps seven strings in operation), and the Marland Oil Company, are barely in evidence in field reports at this time; and all of them are merely pecking away in areas more or less proven, where at best, the returns can be but small. The minor operators, with few exceptions, are in the doldrums, financially or otherwise.

And when it is considered that export and production taxes, and production costs, have declined but little from the high levels that have always been in evidence in the republic, there is but little incentive for any increase in operations during the current year.

In sum, the Mexican picture is not a pleasant one.

HAZARD

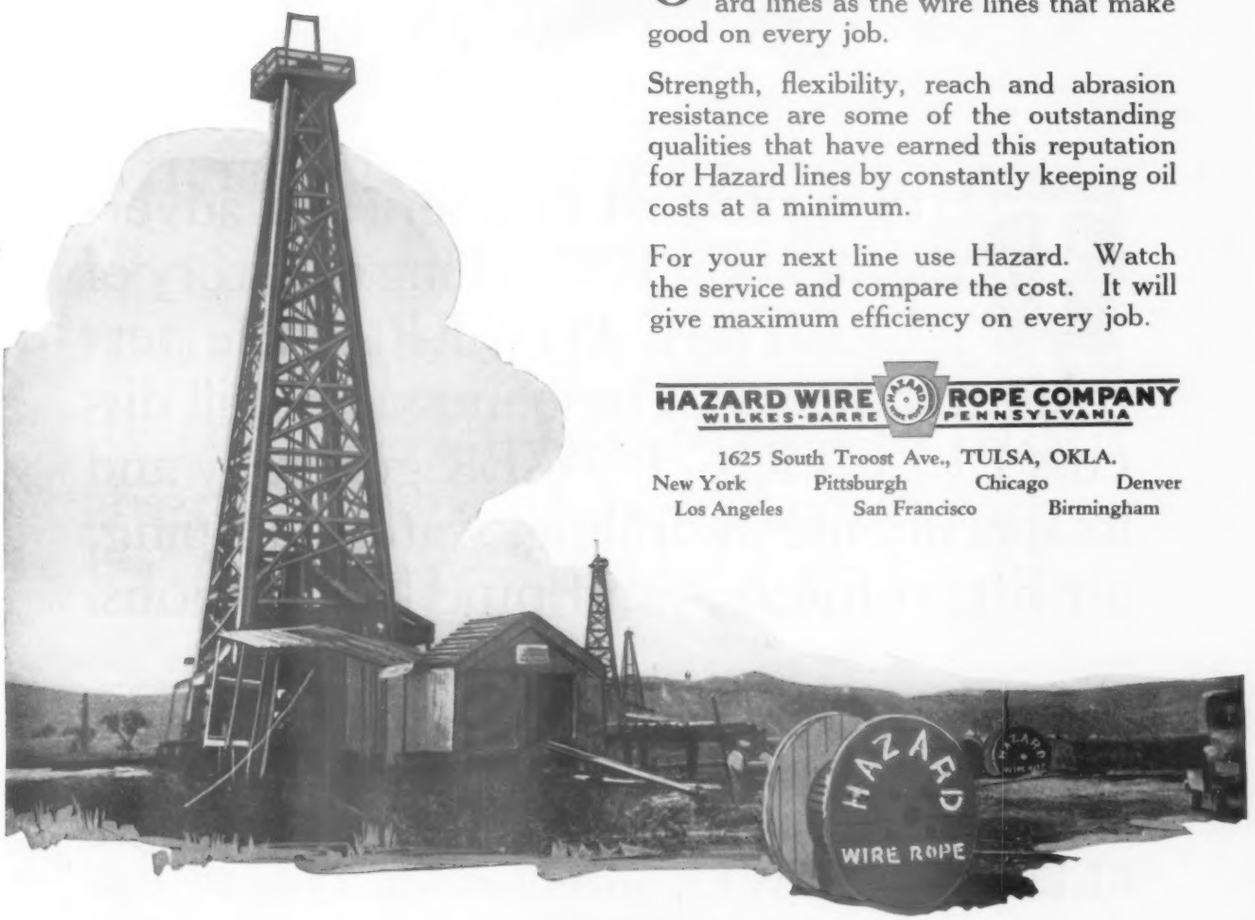
WIRE LINES

Make good on every job

OIL MEN in every section know Hazard lines as the wire lines that make good on every job.

Strength, flexibility, reach and abrasion resistance are some of the outstanding qualities that have earned this reputation for Hazard lines by constantly keeping oil costs at a minimum.

For your next line use Hazard. Watch the service and compare the cost. It will give maximum efficiency on every job.



HAZARD WIRE ROPE COMPANY
WILKES-BARRE PENNSYLVANIA

1625 South Troost Ave., TULSA, OKLA.
New York Pittsburgh Chicago Denver
Los Angeles San Francisco Birmingham

Distributors:

BOVAIRD SUPPLY CO.
904 Mid-Continent Bldg., Tulsa, Okla.

BRADFORD SUPPLY CO.
Bradford, Pa.

CAMERON TOOL & SUPPLY CO.
Cameron, W. Va.

CROTTY & CO.
Parkersburg, W. Va.

DANSER SUPPLY CO.
Weston, W. Va.

FORT WORTH WELL MACHINERY & SUPPLY CO.
Fort Worth, Texas

GREAT NORTHERN TOOL AND SUPPLY CO.
Billings, Mont.

IVERSON TOOL CO.
Tulsa, Okla.

LONGHART SUPPLY CO.
619 Petroleum Bldg., Fort Worth, Texas

THE McJUNKIN SUPPLY CO.
Charleston, W. Va.

MOUNTAIN IRON & SUPPLY CO.
Parkersburg, W. Va., El Dorado, Kans.

PRICHARD SUPPLY CO.
Mannington, W. Va.

THE PRODUCERS SUPPLY & TOOL CO.
Marietta, Ohio; St. Marys, W. Va.; Fort Worth, Texas; Olney, Texas; Graham, Texas; Bristow, Okla.; Coleman, Texas; Muenster, Texas.

UNITED OIL WELL & SUPPLY CO.
Los Angeles, California

fields areas of the Tuxpam embayment, ranging from a low of 21 degrees Baume to 34 degrees on the same scale, the higher range being more in evidence. An exception during 1928 was a completion at Teapa, where a well, finished early in the year, came in for an initial production of 500 barrels, gravity 40 degrees Baume.

In this connection, it is interesting to note that in this Isthmus country the larger the well the higher the gravity appears to range.

A condensed table of field operations in 1928 in recognized districts gives the following:

Well Completions

Fields—	Comp.	Producers	Gas	Failures
North Fields	219	70		149
South Fields	70	31		39
Isthmus Tehuantepec.	48	30	1	17
Total 1928	337	131	1	205
Total 1927	569	182	0	387
Decrease 1928	232	51	1	182

Oils in Storage

Oils, crude and refined, held in steel storage in the Tampico-Tuxpam districts on January 1, 1929, can be placed at 14,800,000 barrels, an increase of 521,000 barrels when compared with the storage figures as of January 1, 1928. Storage statistics for the Isthmus of Tehuantepec are not in hand, but Isthmian storage is negligible.

Of the oils in storage on the first of the current year the following divisions are approximately correct: heavy crude, 6,500,000; light crude, 1,700,000; topped crude (fuel) and other refined, 6,600,000 barrels.

Conclusion

If there is to be any renassiance of the petroleum industry in Mexico during 1929 it is not apparent at this writing. The major companies are, apparently, merely marking time insofar as field operations are concerned. The Penn Mex Fuel Company and the Mexican Sinclair Petroleum Corporation, are the most active, each company keeping less than 10 strings of tools in operation. Such outstanding companies as the Standard Oil Company of Indiana's subsidiaries, the Standard Oil Company of New Jersey, the Royal Dutch-Shell Group (except Mexican Eagle Oil Company in the Isthmus of Tehuantepec, where it keeps seven strings in operation), and the Marland Oil Company, are barely in evidence in field reports at this time; and all of them are merely pecking away in areas more or less proven, where at best, the returns can be but small. The minor operators, with few exceptions, are in the doldrums, financially or otherwise.

And when it is considered that export and production taxes, and production costs, have declined but little from the high levels that have always been in evidence in the republic, there is but little incentive for any increase in operations during the current year.

In sum, the Mexican picture is not a pleasant one.

PROTECTING The PRICE of BORGER CRUDE

The illustration above shows two 3,000-barrel MALONEYS in use by the Dixon Creek Oil Company at Borger, Texas, protecting the price of their crude oil contents by preventing evaporation from reducing the gravity.

MADE OF KEYSTONE COPPER STEEL

THE MALONEY TANK MFG. CO.
Tulsa, Okla., U. S. A.
Distributors at All Principal Petroleum Points

MADE OF KEYSTONE COPPER STEEL

Sizes: 12 to 10,000 Barrels — Packed in Steel-Bound Crates for Export.

MALONEY

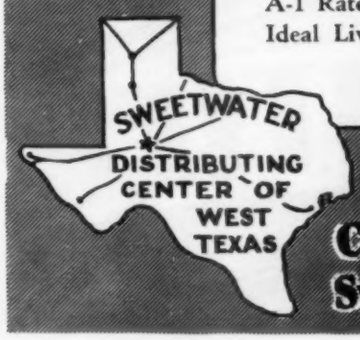
SWEETWATER

9 BIG REASONS *for* Sweetwater

Excellent Shipping Facilities.
Close Proximity to the Oil Fields.
Lower Freight Rates from Manufacturing Centers.
Low Electric, Gas and Power Rates.
Good Warehouse and Trackage Facilities.
Modern Office Buildings.
Ample Hotel Accommodations.
A-1 Rated Public Schools.
Ideal Living Conditions.

These are the factors that make Sweetwater an ideal location for manufacturers and distributors.

Six Railroad Outlets



For Further Information
BOARD OF CITY DEVELOPMENT
Sweetwater Texas

HAZARD

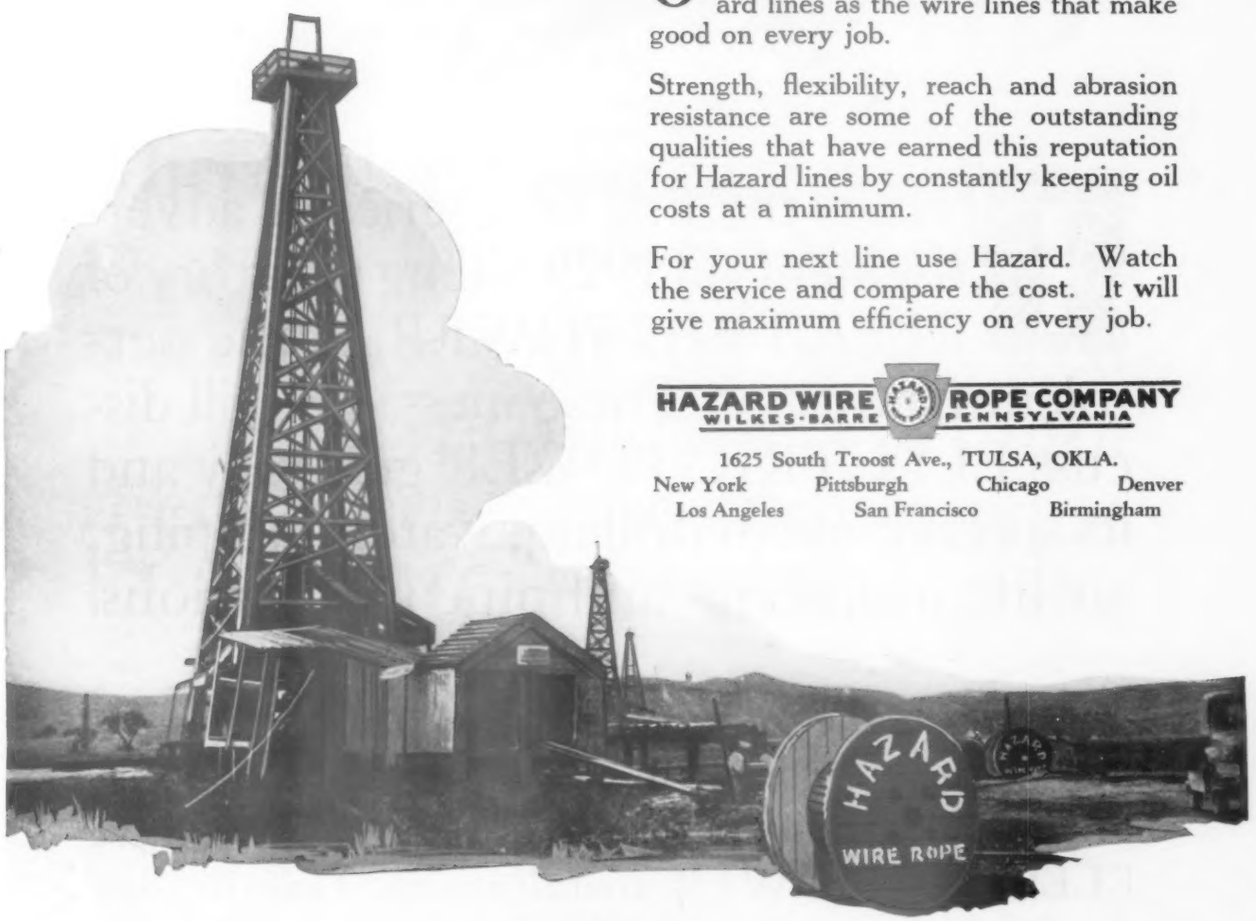
WIRE LINES

Make good on every job

OIL MEN in every section know Hazard lines as the wire lines that make good on every job.

Strength, flexibility, reach and abrasion resistance are some of the outstanding qualities that have earned this reputation for Hazard lines by constantly keeping oil costs at a minimum.

For your next line use Hazard. Watch the service and compare the cost. It will give maximum efficiency on every job.



HAZARD WIRE ROPE COMPANY
WILKES-BARRE PENNSYLVANIA

1625 South Troost Ave., TULSA, OKLA.
New York Pittsburgh Chicago Denver
Los Angeles San Francisco Birmingham

Distributors:

BOVAIRD SUPPLY CO.
904 Mid-Continent Bldg., Tulsa, Okla.

BRADFORD SUPPLY CO.
Bradford, Pa.

CAMERON TOOL & SUPPLY CO.
Cameron, W. Va.

CROTTY & CO.
Parkersburg, W. Va.

DANSER SUPPLY CO.
Weston, W. Va.

FORT WORTH WELL MACHINERY & SUPPLY CO.
Fort Worth, Texas

GREAT NORTHERN TOOL AND SUPPLY CO.
Billings, Mont.

IVERSON TOOL CO.
Tulsa, Okla.

LONGHART SUPPLY CO.
619 Petroleum Bldg., Fort Worth, Texas

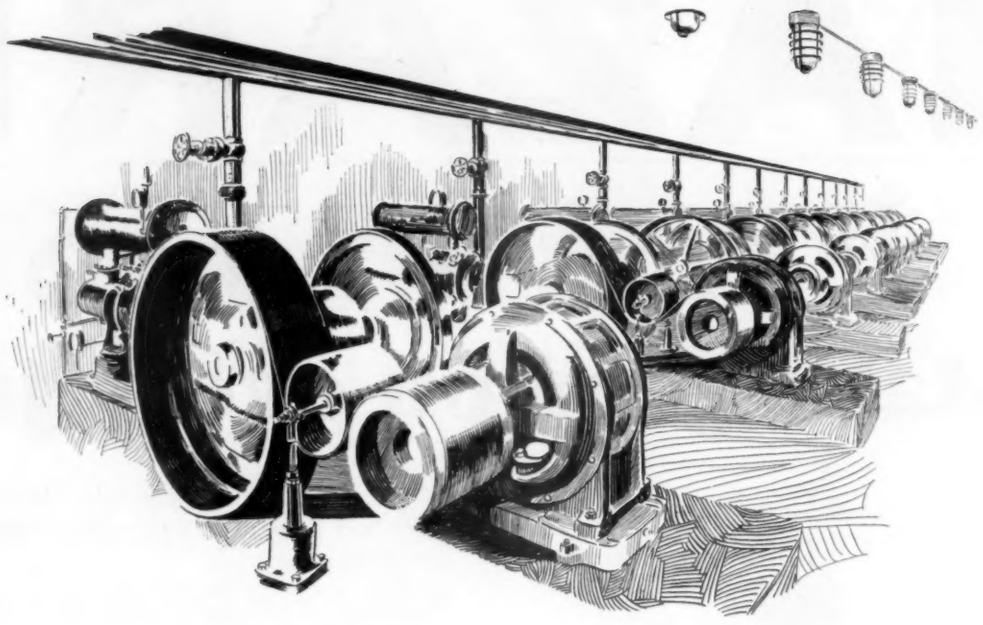
THE McJUNKIN SUPPLY CO.
Charleston, W. Va.

MOUNTAIN IRON & SUPPLY CO.
Parkersburg, W. Va., El Dorado, Kans.

PRICHARD SUPPLY CO.
Mannington, W. Va.

THE PRODUCERS SUPPLY & TOOL CO.
Marietta, Ohio; St. Marys, W. Va.; Fort Worth, Texas; Olney, Texas; Graham, Texas; Bristow, Okla.; Coleman, Texas; Muenster, Texas.

UNITED OIL WELL & SUPPLY CO.
Los Angeles, California



THIS is the first of a series of advertisements in 1929 telling the story of ELECTRIC POWER to the petroleum industry. These messages will discuss ELECTRIC POWER generally and its specific use in drilling, water pumping, air lift, refineries and pipe line stations.

Ten years ago electricity was not taken seriously as a power medium by the petroleum industry. Today, practically all of the important companies have ELECTRIC POWER installations. One by one they have learned that electricity has proved its case as an efficient, money-saving power medium.

OKLAHOMA GAS AND

J. F. Owens, Vice Pres. and General Manager

Say you saw it in The OIL WEEKLY

Let us show you what..... Electric Power *.....can do*

These advertisements will bring messages of importance to every man in the industry interested in power problems. Through them you will be shown what ELECTRIC POWER can do.

BYLLESBY
OKLAHOMA GAS AND ELECTRIC COMPANY
PIONEERS IN PUBLIC SERVICE

Notice the names of our branch Commercial Department offices. Without obligation, you are urged to talk things over with our nearest representative.

Commercial Department: Oklahoma City—O. A. Jennings, Mgr.

Oklahoma City Office	F. P. Hays
Ardmore Office	J. G. Cronin
Muskogee Office	W. H. Steuve
Sapulpa Office	James Tussey
Enid Office	V. H. Kershner

ELECTRIC COMPANY

Courteous, personal attention to every customer

Say you saw it in The OIL WEEKLY

What Interests the Driller?

FEET OF HOLE DRILLED

and

CONTINUOUS OPERATION

A few reason why

BALDWIN

1030 S [A. P. I. No. 3] and 1240 S [A. P. I. No. 4]

PRECISION OIL WELL CHAINS

do have LONGER LIFE AND FEWER SHUTDOWNS in actual operation . . .

(1) *Straight Side Bar Construction,* lessens chance of elongation and makes possible more accurate machining.

(2) *Alloy Steels,* heat treated in most modern furnace equipment possible to buy, results in tough core and hard surface.

(3) *Precision Machining,* Baldwin pins and bushings have always been ground to exact size thereby insuring most accurate fits.

(4) *Two Oil Holes in Bushings,* guarantees full lubrication to chain pins.

BALDWIN—Originator of Precision Oil Well Chains.
Originator of Straight Side Bar Construction.

BALDWIN CHAIN & MFG. CO., Worcester, Mass., U. S. A.

ORIGINATORS OF PRECISION OIL WELL CHAINS

Distributors: Geo. J. Fix Company, 2507 Commerce St., Dallas, Texas; J. W. Minder Co., 927-929 Santa Fe Avenue, Los Angeles, Cal.; The Petroleum Equipment Co., 2800 South Alameda St., Los Angeles, Cal.; The Adam-Hill Co., 244 Ninth St., San Francisco, Cal.; Lucey Products Corp. of Tulsa, Healdton and Duncan; International Supply Company, at Okmulgee, Wewoka and Stroud; T. T. Word Supply Company, Houston, Beaumont, Texas; Shreveport, La., and El Dorado, Ark.

Export Department: Lucey Products Corp., 3505 Woolworth Bldg., New York City.

Say you saw it in The OIL WEEKLY

Western Oklahoma Revealed as Important Reserve

By WARREN BAKER
Staff Representative

THE Greater Seminole field after 18 months of the heaviest drainage of resources ever experienced by any oil field in history of petroleum, continued during the 12 months of 1928 to be the greatest crude oil market factor in the Mid-Continent.

Greater Seminole reached a peak of 525,000 barrels on July 31, 1927, yet on January 1, 1929 (if drilling had not been retarded) the field probably could have equaled or surpassed that amount. Production of Greater Seminole was higher at the end of 1928 than at the start of the year; at the beginning output was averaging around 340,000 barrels per day or slightly higher, and at the end of the year it was slightly above 400,000 barrels. The latter figure includes St. Louis, which should come under the Greater Seminole head, as it is in that district. This production (if not curtailed more effectively) is expected to reach 460,000 barrels during the early part of 1929. The field (including St. Louis) produced approximately 127,000,000 barrels during 1928, or a daily average of close to 350,000 barrels, and with St. Louis only having Wilcox sand production during the last half of the year.

St. Louis and Oklahoma City Important Strikes

The two outstanding strikes of the year were the St. Louis and Oklahoma City fields. The St. Louis strike ranks as an outstanding one, since it was the larger factor during 1928. Magnolia Petroleum Company's Hembree 1, NWc SE, Section 19-7-5, is the discovery well of the Wilcox sand in this pool. Hunton production had been found a year previous, but it was not until the Magnolia test reached the Wilcox sand on April 20 that the first Wilcox producer was completed. The finding of the Wilcox sand productive created only the usual excitement over a new strike, as the well did not perform very highly. Initial production was 662 barrels from the Wilcox sand at 4096-4101 feet. It was east of the Hunton production.

The first Simpson sand production at St. Louis was found a few weeks previously, when the McCulloch Oil Company and Mid-Continent Petroleum Corporation drilled in their Smith 1, NWc SE, Section 25-7-4. This well did 1960 barrels initial at 4176 feet. The last of March the well was deepened and did over 2000 barrels daily, then its output started slumping and fell of rapidly. Before long it was making water.

Following completion of the McCulloch-Mid-Continent Simpson formation producer, rapid exploration for Simpson production, which never amounted to a serious market factor, was begun.

Then came the strike of T. B. Slick that started the big fireworks in the Wilcox sand play of Eastern St. Louis. This well, Hembree 1, east offset to Magnolia Petroleum Company's discovery well, was drilled 18 feet into the pay and did 9000 barrels.

The play that followed resulted in the completion of the Independent Oil & Gas Company's Youts 1, east offset to Hembree 1. The Youts producer did 21,000 barrels and was the largest completion of the year, and second largest well ever completed in the state.

Development of the Wilcox sand area in Eastern St. Louis continued to feature this region for the next several months. During this time the field was limited to nearly 300 acres. Production of the field reached a peak of 140,120 barrels during December, 1928.

Interest was renewed at St. Louis on November 5, when The Texas Company and Fuhrman Petroleum Company's Cherry 1, SWc NW NW, Section 25-7-4, extreme southwestern part of the pool, found the Wilcox sand productive in that area. The well did more than 100 barrels per hour from the Wilcox sand at 4230-60 feet. Although several good producers were found in the vicinity it has failed to develop into any serious market threat. Since most of the wells were producing from the Simpson sand in the vicinity it took only a short time to drill deeper to the new horizon. It is now limited to a very small area.

At Christmas time, T. B. Slick et al's Davis 2, SW NW NE, Section 18-7-5, one mile north of the Wilcox production in Eastern St. Louis, came in for 200 barrels per hour from the Wilcox sand at 4102-08 feet. Later it did better than 5500 barrels daily. Drilling development commenced at once, but at the end of the year no other completions had been made. The well is now making a large amount of water and showing a fast declining production.

Oklahoma City Well

The most important wildcat drilled during the year was the Indian Territory Illuminating Oil Company and Foster Petroleum Company's Foster 1, C SE SE, Section 24-11-3w, six miles south of Oklahoma City. This test, due to several good oil showings and gas sands, came into prominence several months before it was completed.

On December 4 the plugs were drilled out. Gas which followed blew the tools up in the hole, breaking the line. This resulted in what appeared to be a serious fishing job, but which was eased by the pressure beneath the bridge in which the tools were held. As soon as the bridge was blown out the well commenced flowing 5900 barrels per day from a total depth of 6402 feet. It is the deepest producing well in the state. The well has continued this flow since completion, showing but a small decline curve.

Although efforts were made to completely restrict drilling in the area, it was necessary to permit 27 tests to start to the deep pay. It will be late spring or early summer before any of these tests reach the deep pay.

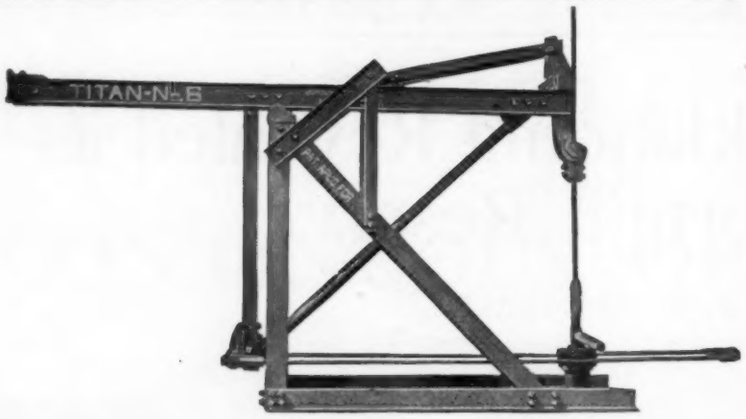
The field is generally rated as a major prospect. Indian Territory Illuminating Oil Company controls most of the acreage, although its block is not solid. There is still some question as to its producing horizon, although now generally thought to be the Hunton.

Little River

The Little River field, after having its north end practically developed during 1927, remained shut in until March 1, 1928, when 16 so-called "test wells" were allowed to start drilling. These locations were picked out by the operators, the umpire, and shut-down committee and were so spaced and situated as to practically test the producing limits of the field. This was the first mark of activity in South Little River after the finding of two wildcat producers during December, 1927.

Prairie Oil & Gas Company's Hudson 1, SW SE SE, Section 12-7-6, on the east side of the structure, was the first of these 16 test wells to penetrate the Wilcox. It topped the Wilcox sand at 4215 feet on April 20, and at five feet it immediately filled with water. It also found water in the second Wilcox sand and acted as a defining test to the east.

Following completion of this well came a steady completion of the other 16 tests, since the majority of them were good producers they resulted in a greatly increased potential production for the pool. It was



USE COLUMBIA
IMPROVED LOCK-NUTS
TO BUILD OR REPAIR EQUIPMENT

On any equipment where bolts are used time and money can be saved by using Columbia Improved Lock Nuts.

These Lock Nuts positively grip the threads and will not work loose under severest vibration.

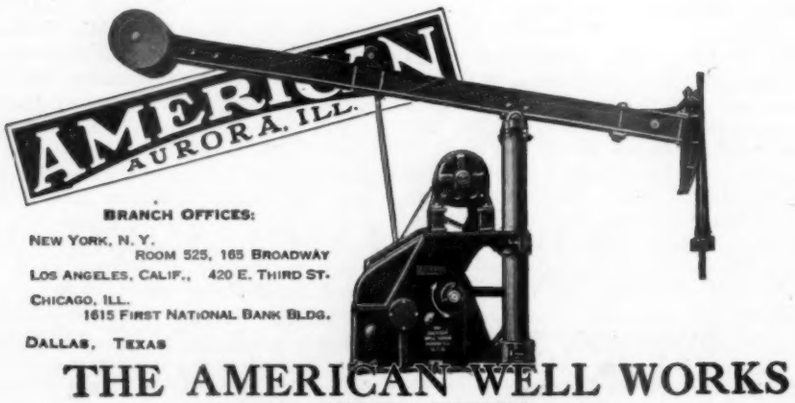
FOR USE ON DERRICKS, TANKS, LOADING RACKS, STEEL BUILDINGS, STEEL TOWERS.

Improved Columbia Lock Nut Assembled. Made Hexagon and Square.

PUMPING POWERS, DRAW-WORKS, RIG IRONS, STEEL STAIRS, STEEL FLOORS, BRIDGES, TRACTORS, CRANES, TRUCKS.

Write for Information on How to Save Time and Money With Columbia Lock-Nuts

COLUMBIA
NUT AND BOLT CO., INC.
BRIDGEPORT, CONN., U. S. A.



BRANCH OFFICES:
NEW YORK, N. Y. ROOM 525, 165 BROADWAY
LOS ANGELES, CALIF., 420 E. THIRD ST.
CHICAGO, ILL. 1615 FIRST NATIONAL BANK BLDG.
DALLAS, TEXAS

THE AMERICAN WELL WORKS
General Offices AURORA, ILLINOIS *and Factory*

proven that the producing area was about three miles long, running north and south, and two miles wide. All of the 16 wells were pinched to 100 barrels per day after flowing open for three days.

On June 15, South Little River was thrown open for development. During the next 48 hours 79 locations were staked, and continued to be made until 150 were located. Under the agreement these wells were not permitted to drill into the pay horizon until August 13. This date found many of them shut down awaiting the expiration of time, and at one minute past midnight on that date these wells started up. Eighteen wells were drilled in during the next 12 hours, sending the field's production from 43,000 to 90,000 barrels per day.

Since this time there has been a steady drilling in of tests. The field was defined a little closer by a few dry holes and carried a little farther in some spots, and with the exception of the west side, there have been few disappointments in the district.

A short distance east of the Little River pool, Mid-Continent Petroleum Corporation's Smith 1, NWc NE, Section 5-7-7, had found the Wilcox sand productive. It remained shut in until drilling restrictions were lifted on September 19, when it was deepened and made 1600 barrels daily. The drilling resulting in this vicinity proved very costly in that the majority of the tests were failures, and the few that found production were small.

Maud District

The Maud area first attracted attention during 1927 when it was found that the Indian Territory Illuminating Oil Company's School Land test, SEc SW, Section 16-8-5, was running very high. It was shut down in the Hunton lime, rather than drill ahead and possibly opened up another Wilcox sand play. During the latter part of 1927, Barnsdall Corporation drilled in Fife 1, NEc NW, Section 14-8-5, making 1200 barrels daily from the Wilcox sand at 4291-96 feet. The well was pinched to 50 barrels daily and drilling development prohibited, except in a few necessary instances.

During January, 1928, came the next completion. It was the old Indian Territory Illuminating Oil Company School Land test, in Section 16-8-5, which topped the Wilcox sand at 4279 feet and filled at once with oil. This resulted in a great excitement over the prospects of the area, but it was soon quited by the test drilling deeper and finding water. It was never a commercial producer.

Indian Territory lluminating Oil Company's Simpson 1, SEc NE, Section 10-8-5, northeast of the Barnsdall Corporation's discovery well, was drilled into the Wilcox on July 16. This test made 55 barrels per hour from the top of the horizon at 4222 feet. The well was deepened to 4232 feet with no further increase in oil and a showing of water which grew decidedly serious. It was plugged back, but was only a small producer. There was a waning of interest in the district following this development.

This condition was not aided by the finding of a failure in the Ritenover test

"STURDYBILT" SECTIONAL HOUSES

Save Money for the Oil Industry with an Actual 100 Per Cent Salvage Value

"STURDYBILT" SECTIONAL HOUSES are a realization of the Oil Industry's need for substantial housing facilities at low cost of initial construction and high salvage value.

"STURDYBILT" SECTIONAL HOUSES, adaptable to the peculiar needs of the Oil Industry for oil field lease, pipe line station or refinery use, are designed to afford the utmost in housing accommodations as well as low initial cost, quick construction and 100 PER CENT SALVAGE VALUE.

No. 413. Five-room "Sturdybilt" residence

No. 304. A "Sturdybilt" field office

No. 302. Five-room "Sturdybilt" lease house

Right—No. 504. Six-room "Sturdybilt" residence

Left—No. 202. Two-room "Sturdybilt" lease office

No. 411. Four-room "Sturdybilt" lease house with screened porch

No. 801. "Sturdybilt" bunk house and dining hall

No. 51. "Sturdybilt" two-car garage

It is conservatively estimated that in the Mid-Continent field alone the Oil Industry has a "dead" investment of well over a Million Dollars in standard constructed houses which could have been reclaimed had "STURDYBILT" SECTIONAL HOUSES been used instead.

For Seven Years "STURDYBILT" SECTIONAL HOUSES have been the leader in section-built houses for Oil Industry usage . . . their comparative value will endure over all other specifications with their actual 100 PER CENT SALVAGE VALUE against the low or absolute lack of salvage value of other types of oil field housing construction.

Descriptive Booklet on Request

SOUTHERN MILL & MFG. CO.

Manufacturers of "Sturdybilt" Sectional Houses

TULSA, OKLAHOMA

of the Indian Territory Illuminating Oil Company, in SE SW SW, Section 22-8-5. This failure was not surprising, however, as the well had found all the upper formations low.

Interest in the Maud district remained at a low ebb until the last of August, when Gypsy Oil Company's Bourassa 1, SEc NW, Section 7-8-5, western part of the area, came in for 2100 barrels from the Misener and Hunton sands from 4090-4122 feet. It was immediately shut in and little drilling commenced.

One week later Western Maud received another big boost. This came from the Pure Oil Company's Lindley test, SE SW SE, Section 18-8-5, located one and one-half miles southwest of the Gypsy il Company's discovery well of West Maud. Pure Oil Company's well made 2520 barrels in 17½ hours from the Misener sand at 4090-4113 feet.

The district has been widened to the south, east and west. It is defined to the north along a line just north of Gypsy Oil Company's Bourassa well, and is pinching out the east and west apparently after covering two miles. In the north part several tests were drilled to the Wilcox sand, but failed to produce in that horizon.

This area during the latter part of 1928 was the most active of Greater Seminole pools. The big campaign resulted in its new completions sending its production to 35,000 barrels per day.

During the last part of 1928, Barnsdall Corporation's Wilcox sand producer in Section 14-8-5, was opened up and produced 1400 barrels per day. Several wells were started, these resulted in the defining of the producing area to the east and southeast, a small well to the southwest, and a north extension of one-half mile. A few other wells ranging from 2000 barrels down have been completed.

Mission Pool

On June 5, a number of operations were permitted to start in the Mission field, lying northwest of the Bowlegs pool. During the summer of 1927 attention had been called to this district by the Gypsy Oil Company's Makasukey Mission 1, SWc, Section 5-8-6. This well was shut down in the Viola lime, because it was looking so favorable for production. It was not drilled into the Wilcox sand until June, 1928, and after Gypsy Oil Company's Dosar 1, Section 7-8-6, had found the Wilcox sand productive.

The tests started on June 5 resulted in proving the area larger than first anticipated. Later development was held back except in the very few cases absolutely necessary to drill. A total of 16 tests were completed and their production pinched to an average of 50 barrels daily.

It was agreed that the district would be thrown open for development on November 17, and that no completions were to be made until February 15, 1929. More than 60 wells were started, although only two to each 40 acres were permitted. The last of the year saw these wells reaching the lower formations where many of them were running low.

Allen Field

The Wilcox sand was found productive in the Allen field during the middle of September by the Sinclair Oil & Gas Company's Amos 2-C, SEc NE NW, Section 7-5n-8e, in the north end, making 35 barrels per hour from two feet of the Wilcox sand at 4158 feet. It was pinched and drilling held back.

The latter part of 1928 saw this field regarded as a highly prospective major Wilcox sand producer, but early events of 1929 have seen several dry holes completed. The producer has been opened up and is doing about 40 barrels per hour after drilling deeper and encountering some water.

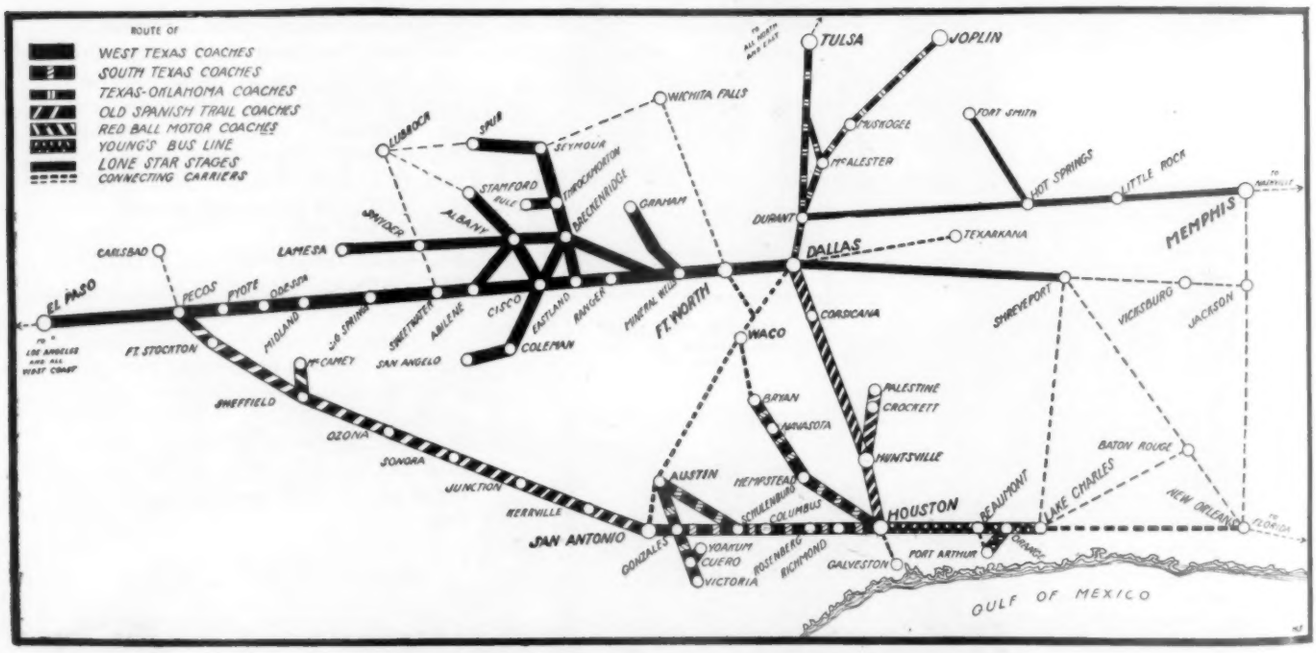
The shallow sand of the Allen field received much attention throughout the year and was gradually carried into new territory until it had spread north across the Canadian River into Seminole County, where the best production was found. The prolific production found in the shallow pay of the Allen field aided greatly in reviving interest in the Pontotoc and other Southern Oklahoma counties.

Earlsboro Extensions

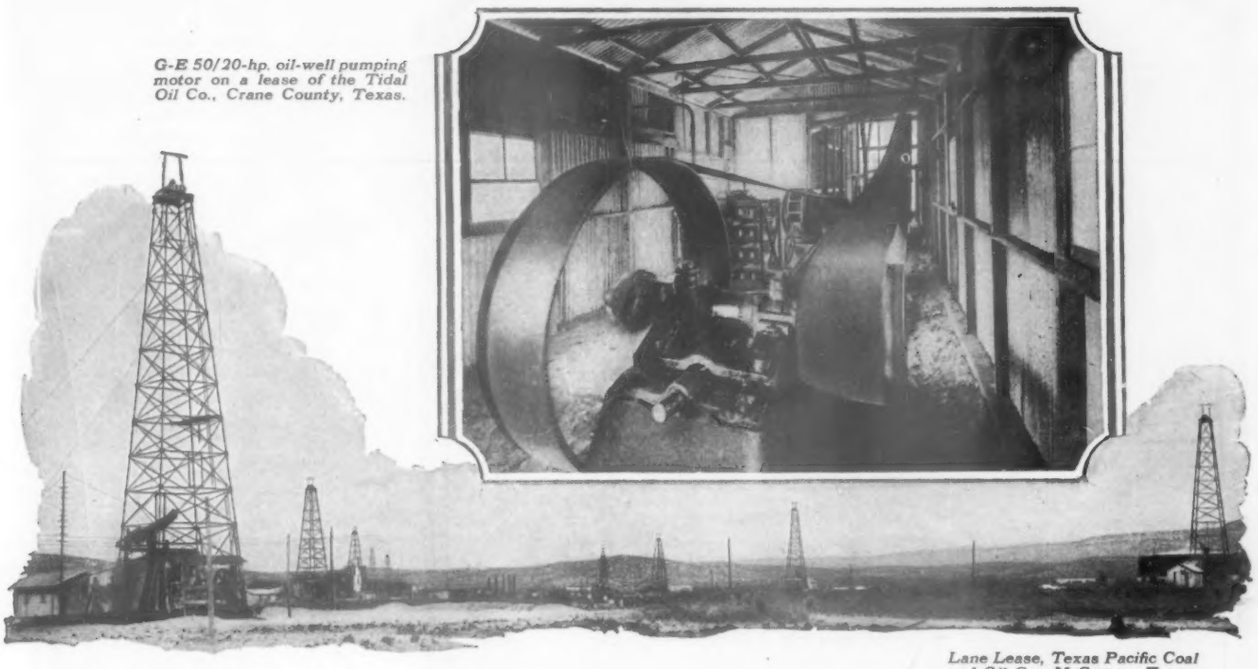
Important extensions constituted the development work of the Earlsboro field during 1928. Early in May, Skelly Oil

TRAVEL VIA MOTORCOACH

CONVENIENT SCHEDULES—REASONABLE FARES



FOR SCHEDULES ON ANY OF ABOVE LINES
INQUIRE AT UNION BUS DEPOT



G-E 50/20-hp. oil-well pumping motor on a lease of the Tidal Oil Co., Crane County, Texas.

Lane Lease, Texas Pacific Coal and Oil Co., McCamey, Texas. The nine wells shown are being pumped with G-E equipment.

Increase production 15%

Pump electrically

Fifty-five days a year—15 per cent—is the average time lost by users of other forms of power. Shut-downs cost heavily—for the crude you might have pumped is gone forever.

G-E Type OMT two-speed motors are powerful aids in boosting production. They fulfill every requirement—pumping, pulling, bailing, cleaning, re-drilling—with economies in power and maintenance. Their successful performance is attested by the 200,000 and more horsepower installed in the last fifteen years.

Consult your nearest G-E office for information and helpful advice.

General Electric supplies complete electric equipment to the oil industry. With warehouse facilities close to your operations, G.E. readily furnishes motors, controllers, transformers, arresters and other protective devices, capacitors for power-factor improvement, switching equipment, etc.

G-E oil field specialists at: Dallas, Denver, Houston, Kansas City, Oklahoma City, Tulsa, Los Angeles, San Francisco.

Motorized Power
—fitted to every need

200-196H

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, SCHENECTADY, N. Y., SALES OFFICES IN PRINCIPAL CITIES

SHAFFER
TOOL WORKS

BREA, CALIF.

Specialists in High-Pressure and Safety-First Oilfield Equipment

SHAFFER TOOL WORKS

LOOK FOR THIS EMBLEM ON

Casing, Tubing and Packing Heads
Adjustable Flow Beans
High Pressure Fittings
Shaffer Oil Well Pumps
T. and T. Releasing Fishing Tools
and
Other High Grade Oil Field Specialties

DISTRIBUTORS:
Robt. N. Atmore Company, Tulsa, Oklahoma
Robt. J. Miller Company, Houston, Texas
Foreign Representative: Oil Will Supply Company, Pittsburgh, Pa., U. S. A.
London, New York, Tampico

Write to BREA, California for Complete Information

TUBE TURNS

A NEW AND EXCLUSIVE PROCESS

No thinning of outside wall or buckling of inside wall. Greater strength, less friction, longer life.

Wide Applications

Used to provide any kind of elbow, off-set, branch, or return bend in welded piping. To replace cast fittings and mitre-welded elbows, or wherever a tight, flexible, safe, SEAMLESS drawn fitting of low friction resistance will improve the installation.

Immediate delivery of standard sizes from either our own warehouse, or from stocks at Louisville, Ky. Price lists and descriptive bulletins mailed on request.

Maintenance Engineering Corporation

1400 Conti St. **Phone Preston 2274-5**

Houston, Texas

Company and Atlantic Oil Producing Company's Sherry 1, SWc NW SW, Section 6-9-6, opened up an east extension. The well made a flow of 4073 barrels after a 25-quart shot in the Wilcox sand from 4410-26 feet.

A number of wells immediately commenced operations and have resulted in the east extension being carried forward until it has nearly connected with the Searight field, which at the same time was being carried slightly westward.

Superior Oil Corporation renewed interest in Northern Earlsboro with a good well found during the latter part of April. This well, Walker 1, SE NE NE, Section 2-9-5, produced 7445 barrels from the Wilcox sand at 4377-4400 feet after a shot. A number of other wells have been completed in the extension, resulting in it being carried further to the north, but none of them have been very large producers.

The last part of the year saw the southeast edge of Earlsboro pick up in activity and interest as a result of the Magnolia Petroleum Company's Gilliam 1, NW NE SW, Section 13-9-5, which produced 1850 barrels from the Wilcox sand.

Logan County Field

Development of the McCully pool in Logan County continued along slow, easy lines until the latter part of 1928, when several developments greatly improved the status. The year started off by seeing the area defined to the southeast one-quarter of a mile from the discovery well. The last of February saw the Shell Petroleum Corporation Freelove 1, SWc, Section 17-19-4w, one mile north of the discovery producer, come in for better than 2000 barrels daily from the Wilcox sand topped at 6080 feet.

Several wells were completed during the remainder of the year, but until December there was nothing of outstanding importance. During December the producing area was carried slightly to the northwest by the Sinclair Oil & Gas Company's Webber 2, NEc SE SE, Section 18-19-4w.

The last week of December saw the completion of the largest well yet found in the field. It was the Shell Petroleum Corporation's McCully 4, Section 30-19-4w, one location west of the discovery well and the farthest west production. This well had an initial flow of nearly 3500 barrels daily and greatly improved the outlook of the pool for the year 1929.

Summary

The year 1928 in Oklahoma, despite continued efforts to limit production and drilling, saw a very high production of crude and great activity, which resulted in several important strikes. Both drilling and recovery would have been much higher had it not been for conservation agreements holding back development in many areas.

The outstanding strike from a viewpoint of the future was the Oklahoma City find. This well will result in an extensive wildcatting campaign in that vicinity as well as in the area to the east toward Greater Seminole, and into Western Oklahoma.

POLAR BEAR

ENDURANCE

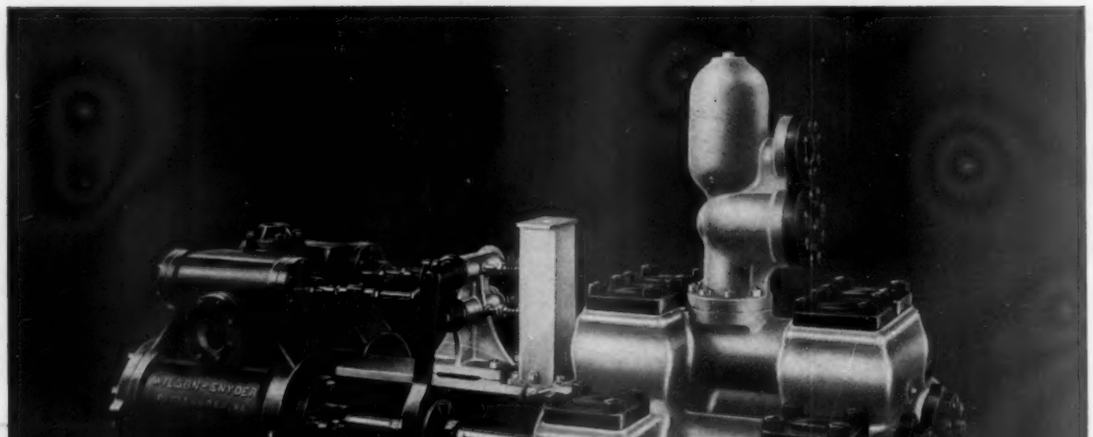
A characteristic of the Polar Bear and also of the products manufactured by The Garlock Packing Co., Palmyra, N.Y.

APPROPRIATELY clothed in white, the polar bear lives permanently on the ice packs often hundreds of miles from the nearest land. Having a quantity of protective fur on the soles of its feet as well as on its entire body, the great ice bear of the Arctic can endure the severest sub-zero temperatures that exist in the land of ice and snow.

Like the polar bear, Garlock Mechanical Packings have great powers of endurance under the most severe and trying conditions. These products have remarkably long life as they are scientifically manufactured from the best of crude materials by master craftsmen.

Standardize on Garlock and be relieved of troublesome packing problems. There is a Garlock Service Man in your vicinity who is ready to call at your plant and make recommendations to meet your individual requirements.

Many of our No. 18 Slush Pumps



have been drilling deep hard holes for *over 2 years*

and are still operating at minimum expense

WILSON-SNYDER
BUILDERS OF HEAVY DUTY PUMPS FOR OVER FIFTY YEARS
PITTSBURGH, PA U.S.A.

Sedgwick County Revises Potential Importance of Kansas

By WARREN BAKER
Staff Representative

THERE was little to feature the first half of 1928 in Kansas, but the last half saw many important developments. The most important discovery of the year was the finding of the Wright pool in August.

The first well in the Wright field was the Gypsy-Marland-Bu-Vi-Bar's Wright 1, SEc NE SE, Section 12-26-1w, six miles north of Wichita, in Sedgwick County. The well made an initial production of 1800 barrels at a depth of 3367 feet. It was first regarded as a possible freak well, but the continued fine performance soon resulted in it being classed as an opener of a pool of considerable size.

Other completions which followed enlarged the prospective size of the field until it is now considered a major prospect. Several wells were started as offsets to the Wright producer, which is located on a block of several thousand acres. It was in September that the Marland Production Company drilled Goodrich 1, C SW, Section 16-25-1e, into a formation at 3010-20 feet, which resulted in the test producing 2125 barrels the first 12 hours. This important completion, located seven miles north of the Wright pool, resulted in a large drilling campaign, which continued to spread as additional completions were made in the Wright field. Only a few tests were started around the Goodrich producer, since Marland Oil Company owns a solid block.

November and December, of 1928, saw the completion of the three offsets to the Wright well, all being good producers. Aladdin Oil Company-T. B. Slick et al's Smyser 1, NE SW SE, 36-25-1w, two miles northwest of the Wright discovery well, came in for 510 barrels in 19 hours from 3436-39 feet. This well is in the edge of the Valley Center townsite and resulted in the start of a number of tests inside the city limits.

The end of the year 1928 found more than 60 operations under way in the northeastern portion of Sedgwick County, and this number was being rapidly increased. Sedgwick County promises to be a very important factor in the light oil situation of the Mid-Continent during 1929.

Western Kansas Is Studied

Western Kansas came into prominence during 1928 as a result of several showings and a large leasing campaign. The most important strike of Western Kansas was the Phillips Petroleum Company's Shultz 1, C NE, Section 5-12-17w, in Ellis County. This well made about 300 barrels daily on the swab from 3572-75 feet. It is now producing 250 barrels.

In November, Danciger, Valerius and Cheney's Schuerman 1, C NW, Section 27-17-17w, in northern Rush County, adjoining Ellis County to the south, found an important showing of oil. It was finally completed as a gasser at 3575-76 feet.

The year also saw the development of the Gorham pool in extreme southwestern Russell County. The discovery well gave indications of having opened up another Russell pool, but only four producers were completed in the drilling campaign and the field passed from the picture.

The leasing campaign resulted in more than 100 blocks of various sizes being assembled after a thorough study of the area with core drills, magnetometers and torsion balance. An increased drilling campaign is anticipated as a result of this leasing.

Marion County

Early in October a new producing area was opened in Marion County by Courtney Davis' Rample 1, SW NW, Section 7-19-3e. This well flowed 7½ million feet of gas and developed into a small oil producer after being deepened to 2452 feet. The new discovery is 10 miles south of the Lost Springs pool, which was opened earlier in the year. The Davis well resulted in renewed interest in the county and the starting of several offsets and wildcat tests.

Givens & Hershey's north extension well to the Lost Springs field, in Section 21-17-4e, produced 500 barrels initial and was thought to have opened an important new producing area. Drilling that followed, however, was very disappointing.

McPherson County

McPherson County gas field had some interesting developments. Mid-Kansas Oil & Gas Company's Larsen 1, Section 31-18-2w, came in for five million feet of gas and a spray of oil from 2952-77 feet. This well was the first oil producer in the area and was located one-half mile from the gas production. A few other similar completions were made but none of them developed into important oil producing wells.

Elk County

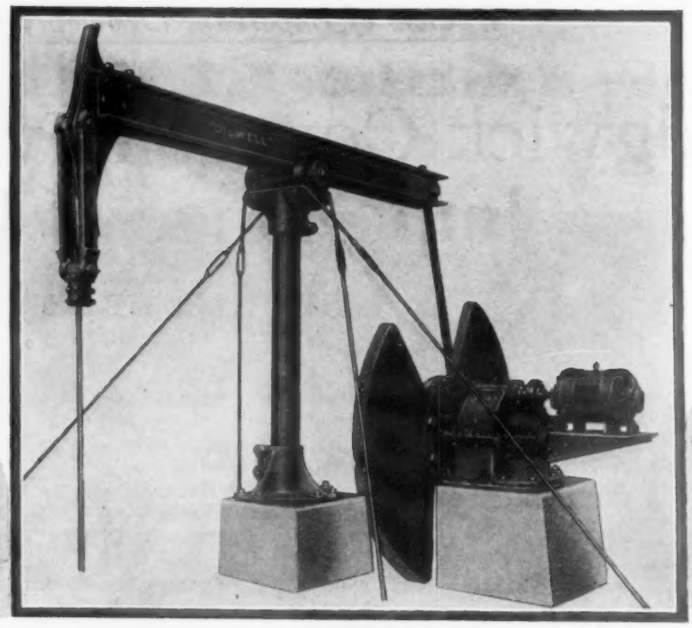
Minnehoma Oil & Gas Company and Murphy Oil Company's Ferguson 2, NW SW, Section 3-31-8e, was thought to have opened an important new pool near the Cowley County line in Elk County. The well came in for 600 barrels initial. Several wells were completed in the vicinity but the pool did not develop into an important one.

Summary

The last half of 1928 saw several important strikes like the Sedgwick County, Marion County, and Ellis County finds, which promise to play an important part during 1929. The coming year should see one of the most active years in the history of Kansas' development. This activity will center around the Sedgwick and Marion County strikes, both of which have grown in importance since the start of the new year.

CARBON (BLACK DIAMONDS)
FOR DIAMOND CORE DRILLS
IMPORTERS
INDUSTRIAL DIAMONDS
MANUFACTURERS
DIAMOND POINTED TOOLS FOR ALL MECHANICAL PURPOSES
WRITE OR WIRE FOR CATALOGUE AND FULL PARTICULARS
THE DIAMOND DRILL CARBON CO.
PARK ROW, NEW YORK, N.Y. CABLE ADDRESS, CREDOTAN, N.Y.

The Walking Beam and Sampson Post assembly illustrated at right have been designed by our authorized distributor especially for use with the OP-345 Unit.



A Westinghouse-Nuttall Gear Unit
for Pumping Shallow Wells

THE Westinghouse-Nuttall OP-345 gear unit is a compact, triple reduction unit designed especially for pumping shallow wells of small production.

The highly efficient operation and minimum upkeep necessary to maintain low cost production in this character of service are positively assured by retaining in this unit the distinctive construction features of other Westinghouse-Nuttall oil well units---"tough-hard" gears, Timken bearings, heat-treated shafts, positive lubrication, counter-balanced crank and others.

As is true of other Westinghouse-Nuttall oil well units, the OP-345 unit not only lowers production costs but also increases production as well.

Have a Westinghouse salesman or our distributor's representative tell you about this unit. Ask for Bulletin 92.

Oil Well Supply Company, Authorized Distributor for Westinghouse-Nuttall Pump Gear Units.

Westinghouse Electric & Manufacturing Company
Nuttall Works Pittsburgh, Pa.
Sales Offices in all Principal Cities of the United States and Foreign Countries

Westinghouse

T 30357

Restricted Drilling in Mountain Area Because of Market Conditions

By A. J. HAZLETT

PIPE line runs from the various oil fields in the Rocky Mountain region in 1928 totaled approximately 29,667,295 barrels. Wyoming led with 21,361,795 barrels with the production from the other states as follows:

Montana, 4,117,000 barrels.
Colorado, 2,829,300 barrels.
New Mexico, 1,359,200 barrels.

The production from all the states except Wyoming is estimated, as the exact figures from the other state are not yet available. Had there not been an overproduction of crude petroleum in other sections of the country, the output in the Rocky Mountain region would have at least been one-half greater. Some of the proved fields were shut in the entire year, others about six months in the year and several of the more prolific fields were not produced to full capacity.

While drilling in the proven fields in the Rocky Mountain region in the last year was greatly restricted, the major companies carried on an extensive wildcat exploration campaign and there was also considerable wildcat work undertaken by the so-called independent interests and local concerns. This exploration work resulted in the discovery of half a dozen new oil fields and several new natural gas areas.

New Fields

Among the new fields discovered was Pondera and Banatyne in Montana, Frannie, Alkali Butte and Anthills in Wyoming and in Lea County, New Mexico. The Pondera and Bannatyne fields are new discoveries in the Sweet Grass Arch and prove the existence of other productive districts besides Kevin-Sunburst in that section of the county. Frannie is a high grade black oil field of great promise. Alkali Butte is a light oil field but does not show very great possibilities at this writing. The same may also be said of the Anthills structure in eastern Wyoming. Lea County in New Mexico seems to have important possibilities.

Rapid strides were made in 1929 in the development of the natural gas industry in the Rocky Mountain region. Producers & Refiners Corporation discovered a major gas field at Muskrat Dome in Fremont County, Wyoming. The initial well is shut in with an open flow of 72,000,000 cubic feet and a rock pressure of 1,500 pounds. An extension to the South Baxter Basin area was proved in the last year and the Hiawatha Dome was further proved for natural gas by new wells.

Natural Gas Development

Many millions of dollars were spent in the last year in opening new markets for natural gas. Projects competed within the year include the gas pipe line of the Interstate Gas Company and the Canadian River Gas Company from the Texas Panhandle to Denver at a total cost of about $20,000,000. The line supplies Denver and intervening towns with gas for domestic and industrial consumption.

In Montana, a gas line from Toole County to Great Falls was completed in the year. A system has also just been completed from the Cabin Creek field in southeastern Montana to Rapid City and other towns in southwestern South Dakota. This system was financed and constructed by the Hope Engineering Company for the Montana-Dakota Power Company. Plans are now under way for a more ambitious natural gas program of an international character. A company is said to be in the process of formation to pipe natural gas from Montana and Alberta, Canada, to St. Paul and Minneapolis.

In Wyoming, a major natural gas undertaking is the laying of a line nearly 400 miles long from Hiawatha Dome in northern Colorado and southern Wyoming to Salt Lake City and ultimately to southern Idaho. Construction work on this line is actually under way out of Salt Lake City. Interests identified with the Ohio Oil Company, the Prairie Oil & Gas Company, the Lone Star Gas Company and the Crawford interests of Ohio are sponsoring the enterprise. This line will cost in the neighborhood of $20,000,000 when completed. It is planned to have it in operation by January 1, 1930.

Several small natural gas projects were undertaken in New Mexico in 1929. A line was completed from the Artesia field to the town of Carlsbad and another line is now under construction from the Ute wells in San Juan County to Durango in Colorado.

The outlook for development work in the Rocky Mountain region for 1929 is more encouraging than it has been for a number of years. Geological investigations will be conducted in a more thorough manner than ever before. In the last year there was a considerable amount of work started by the more important companies with geophysical instruments.

Prairie Oil & Gas Company did considerable work in the last year with a magnetometer in the Wind River Valley and in Converse and Niobrara Counties. The Gulf Oil Corporation also had several large parties working in the Powder River Valley district in Converse and Niobrara Counties and unknown parties from Houston, Texas, operated in Converse, Niobrara, Campbell and Crook Counties with the Torsion balance. It is expected that these various interests will complete their work with these different instruments in 1929.

The Texas Production Company fine tooth combed Lincoln and Uinta Counties last fall with geophysical instruments but has not made public its conclusions. In the Little Lost Soldier Basin, the Producers & Refiners Corporation is drilling a series of diamond core tests for sub-surface geology which it is reported have proved highly satisfactory.

A territory that is said to hold considerable promise is a triangle formed by Alkali Butte, Muskrat and the town of Shosoni. The Midwest Refining Company has been giving this locality the once over with a magnetometer and it is reported has taken over considerable acreage in the district.

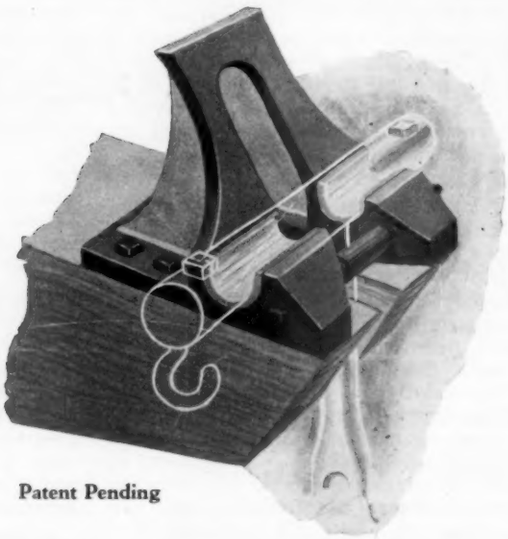
All in all, many of the structures in Wyoming and other Rocky Mountain states will be tested this year. One important company is reported to have secured control of 25 structures in Wyoming alone which will be tested within the next two years. A number of these structures have been drilled before but in the light of later geological data, it is believed that the wells were not deep enough for thorough tests.

As in the past, Wyoming lead all other states in activity the last year and will also take the lead again in 1929. The total production of crude petroleum in the state in 1928 is given at 21,361,795 barrels. This was from 30 fields. No production was had from Bolton Creek, Black Mountain, Grass

BURNS—*A Name That Has Always Stood for Highest Quality*

A BURNS
Tubular Temper Screw
drilled the Group No. 1 Oil Corp. Well No. 1-B the deepest well in the world.

Whenever they need the best, BURNS *always supplies the need.*



Patent Pending

The same BURNS
Quality in a new product

THE BURNS BEAM BEARING

for Temper Screws, saves the beam and makes unnecessary the practice of *half-soling*, or nailing a block of hardwood to the beam head. A *Safety first* device as it is impossible for Temper Screw to jump out.

No working parts, nothing to get out of order. Babbitt bearings prevent wear on the temper screw head. For sale by your Supply Store, write for prices.

BURNS *Tool Company*
OKMULGEE - OKLAHOMA

Creek black oil, Maverick Springs, Notches and Warm Springs.

Besides the discovery of oil at Alkali Butte, Anthills and Frannie and gas at Muskrat, there are several promising prospects as the result of exploratory work in Wyoming. New production has been developed in the shallow fields in Spring Valley and other sections in Uinta County. That part of the state will come in for considerable new work this year. Other areas in southwestern Wyoming will receive attention.

O'Brien Springs and Sherard Dome in the Little Lost Soldier district are considered good prospects. There are also prospects for production in the Tensleep in the Little Lost Soldier district as disclosed by the Producers & Refiners Corporation's deep test in the Ferris field where high grade production was found in the lime at 4,523 feet. Union Oil Company drilled a test 3,780 feet on the North Sunshine structure in Park County. It had showings of black oil at 3,200 feet and 3,486 feet. The sands were shot and resulted in a 25-barrel well. This structure is now owned by the Continental Oil Company and will probably be drilled deeper. The company may also test the structure with a new well.

Ohio Oil Company has a good prospect for a new black oil field on the Shoshone structure three miles east of Cody. The hole filled 3,500 feet with oil from the top of the Embar formation. Utah Southern Oil Company has a 15,000,000-foot gas well from the bottom of the Tensleep on the Garland structure in northern Wyoming. It will be drilled deeper. Honolulu Oil Corporation may have a new field on the Four-Bear Structure in Park County. The hole is bottomed in the Tensleep at 3,350 feet, and in a three-day test it produced 1,000 barrels of 14 gravity black oil. In the Billy Creek gas field in Johnson County, Carter Oil Company, Consolidated Royalty Company and Western Exploration Company have either a gas or an oil well on the east side of the field.

Kinney-Coastal Oil Company is drilling a deep test on the north side of the river in the old shallow Pilot Butte field. This is believed to be a good prospect for light oil. Ohio Oil Company has an option on the Sheldon Dome in Fremont County and will core drill it for sub-surface geology. Producers & Refiners Corporation is trying to get through the big gas sands at Big Sand Draw for a test of the lower horizons for oil.

Oregon Basin was proved the last year for large production and a pipe line completed from the field to Cody. The Texas Company will soon have a 3,000-barrel refinery completed at Cody. Spindletop field was proved for black oil in the last year and North Casper Creek has been proved for gas. Both give good promises for further development. Deeper sands in the Salt Creek

When you see Steel Pipe *marked*

The name BETHLEHEM is marked at intervals on every length of Bethlehem Steel Pipe—assurance that Bethlehem Pipe embodies the same high quality found in other Bethlehem Products.

..*you know this about it*

You can be sure of certain very important things about Bethlehem Steel Pipe. You can be sure that it was made by the most approved methods under the supervision of experienced men, in a mill equipped with the most modern machinery. And you can be sure that it has passed the most critical inspection and tests, and that it conforms in every detail to Bethlehem standards.

Most important of all, you know that it is placed on the market by a Company with a half-century old reputation for quality in a wide range of steel products, and a standard of excellence that is never relaxed.

Users and jobbers of pipe can buy steel pipe marked "Bethlehem" with confidence. There is no better or more certain way to obtain pipe that you *know* will meet every test and satisfy the most exacting requirements.

BETHLEHEM STEEL COMPANY ~ *General Offices:* Bethlehem, Pa.

District Offices:

New York Boston Philadelphia Baltimore Washington Atlanta Pittsburgh Buffalo
Cleveland Detroit Cincinnati Chicago St. Louis San Francisco Seattle Los Angeles Portland Honolulu

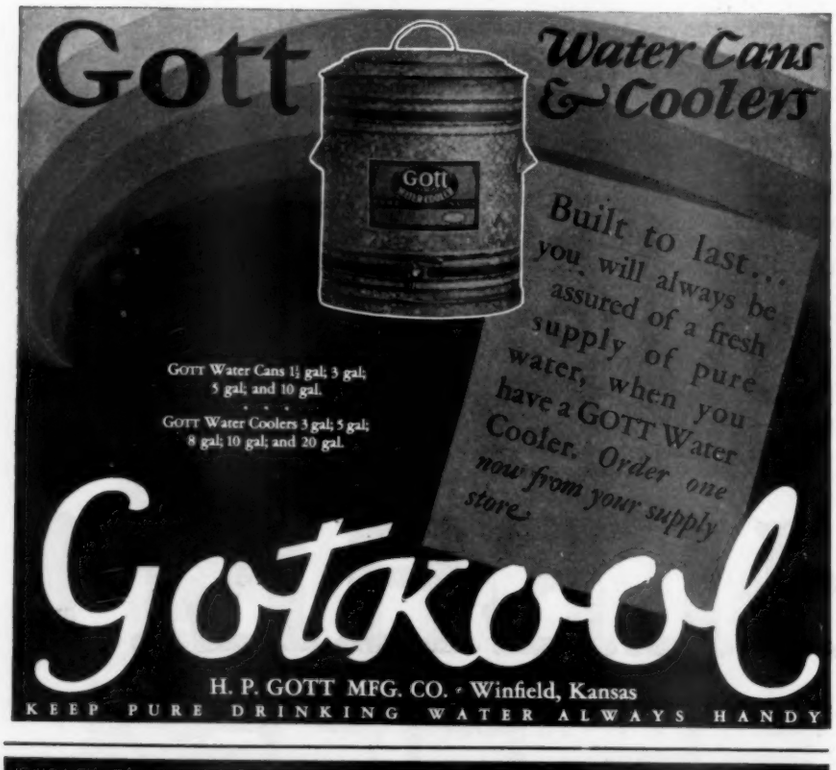
Bethlehem Steel Export Corporation, 25 Broadway, New York City
Sole Exporter of Our Commercial Products

BETHLEHEM STEEL PIPE

Say you saw it in The OIL WEEKLY

Gott
Water Cans & Coolers
Gott
Have a cool supply of clean-pure sparkling water... ready to drink at all times. No matter where you are the GOTT Water Can is health insurance. Your supply store has them.
GOTT Water Cans 1½ gal; 3 gal; 5 gal; and 10 gal.
GOTT Water Coolers 3 gal; 5 gal; 8 gal; 10 gal; and 20 gal.
Gotkool
H. P. GOTT MFG. CO. - Winfield, Kansas
KEEP PURE DRINKING WATER ALWAYS HANDY

THE acknowledged
Standard of the oil fields for;
QUALITY, SERVICE *and* LONG *life*


Gott
Water Cans & Coolers
Gott
Built to last... you will always be assured of a fresh supply of pure water, when you have a GOTT Water Cooler. Order one now from your supply store.
GOTT Water Cans 1½ gal; 3 gal; 5 gal; and 10 gal.
GOTT Water Coolers 3 gal; 5 gal; 8 gal; 10 gal; and 20 gal.
Gotkool
H. P. GOTT MFG. CO. - Winfield, Kansas
KEEP PURE DRINKING WATER ALWAYS HANDY

field have been satisfactorily explored in the last year.

Midwest Refining Company completed an oil pipe line from the La Barge field in southwestern Wyoming to railhead at Opal, in the last year. The line is about 40 miles long and has been handling more than 2,000 barrels of crude daily since its completion.

Considering conditions, Wyoming has fared fairly well in 1928 and there is every prospect that the oil and gas industries of the state will do better 1929.

Montana ranked next to Wyoming in oil and gas production in the Rocky Mountain region in 1928. The total crude petroleum production in the state approximated 4,117,000 barrels. There were three natural gas projects completed in the state in the last year. A gas line was laid from the Kevin-Sunburst field to Great Falls, another line was laid from the Baker district in Fallon County to cities and towns in the Black Hills country and a line is now under construction from the same district to towns in southwestern North Dakota. A 6-mile oil pipe line was laid from the Pondera oil field to railhead at Conrad.

Besides the discovery of the Pondera and Banatyne fields, there is a good chance for a new field on the Dry Creek structure in Carbon County in the southern part of the state where the Ohio Oil Company has a 11,000,000-foot gas well in the top of the Frontier at 4,558 feet. The gas is heavily saturated but a complete test has been prevented by a long drawn out fishing job. Deeper drilling in the Kevin-Sunburst field has led some to believe that there are possibilities in the Devonian in Montana.

Montana Oil Production 1929

Fields	Barrels
Kevin-Sunburst	3,173,000
Cat Creek	547,500
Pondera	322,400
Lake Basin	74,100
Total	4,117,000

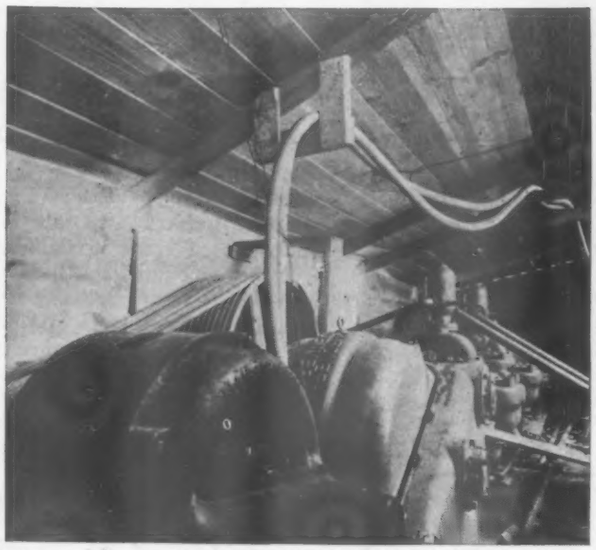
Colorado was third in the production of crude petroleum in the Rocky Mountain region in 1929, the total quantity being 2,829,300 barrels. There were no new oil or gas fields credited to the state in 1928 although at the beginning of 1929 it looks as if there may be a new field opened at Pueblo where the Rozella Oil Company has a well with the ear marks of a commercial producer. In the year the Continental Oil Company has proved the South McCallum structure in northern Colorado for gas at 4,875 feet. It is carbon dioxide, the same as the gas in the North McCallum structure.

Colorado Production in 1928

Fields	Barrels
Fort Collins	1,080,000
Iles	721,000
Moffat	434,300
Tow Creek	181,500
Rangely	37,200
Florence	368,000
Boulder	7,300
Total	2,829,300

(Continued on page 124)

Drillers like these big GARDNER POWER PUMPS



Drillers like the Gardner 7¼x14 Enclosed Power Pumps because they are big enough to furnish ample mud capacity and pressure, and rugged enough to stay on the job without coddling. These pumps can be furnished arranged for any type of drive.

ASK FOR BULLETINS EP-4 AND EP-7

GARDNER-DENVER COMPANY
QUINCY, ILL.

BRANCHES IN OIL FIELDS:

Dallas	Houston	San Francisco	New York
Denver	Los Angeles	Tulsa	Chicago
	Philadelphia	London, England	

OIL COUNTRY DISTRIBUTORS:

Atlas Supply Company - - - - - Muskogee, Tulsa and Fort Worth
C. F. Camp Co. - - - - - - - - - - - - - - - - Tulsa
Emsco Derrick & Equipment Co. - - 6811 So. Alameda St., Los Angeles
Haywood-Williamson - - - - - - - - Shreveport and El Dorado
International Supply Company - Stores In All Principal Mid-Continent Fields
Norvell-Wilder Hdw. Co. - - - - Beaumont, Houston and Fort Worth
The Republic Supply Co. of Calif. - Stores In All Principal California Oil Fields

GARDNER-DENVER

STAR No. 44ST

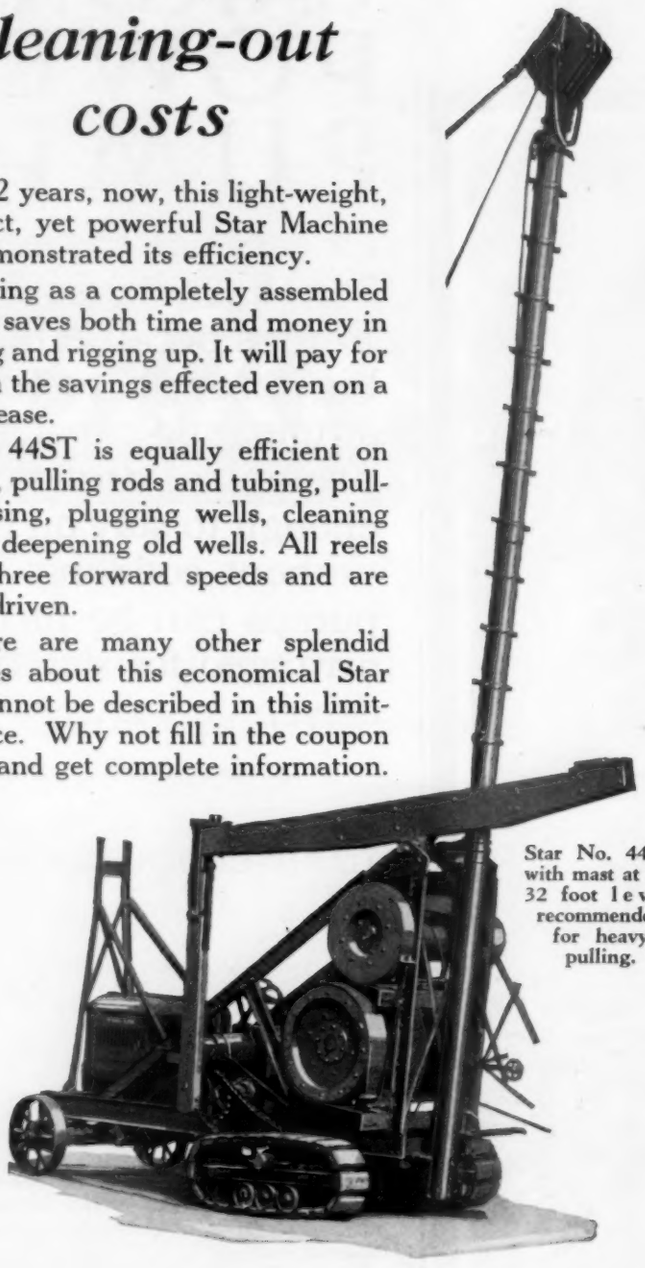
will cut your cleaning-out costs

For 2 years, now, this light-weight, compact, yet powerful Star Machine has demonstrated its efficiency.

Moving as a completely assembled unit, it saves both time and money in moving and rigging up. It will pay for itself in the savings effected even on a small lease.

The 44ST is equally efficient on bailing, pulling rods and tubing, pulling casing, plugging wells, cleaning out or deepening old wells. All reels have three forward speeds and are chain driven.

There are many other splendid features about this economical Star that cannot be described in this limited space. Why not fill in the coupon below and get complete information.



Star No. 44ST with mast at the 32 foot level recommended for heavy pulling.

THE STAR DRILLING MACHINE CO.,
Akron, Ohio, U. S. A.

Please send us complete information on your latest model cleaning out machines for ..... ft wells.

Name .....

Address .....

Oil Weekly, Feb. 22

Development work in New Mexico in 1928 was very interesting. While there were not very many important discoveries, the state produced 1,359,200 barrels of crude petroleum with very little drilling in the proved fields. None of the fields were produced to their full extent. There were several natural gas projects completed and some interesting oil development in Lea County. A new well near Roswell, completed early in 1929, will no doubt lead to interesting developments. This well is reported to have had an initial production of 1,600 barrels.

New Mexico Production 1928

Fields	Barrels
Artesia	451,000
Rattlesnake	312,300
Hogback	219,000
Cap Rock	194,400
Table Mesa	182,500
Total	1,359,200

At the close of the year 1928 there was considerable interest shown in petroleum and natural gas possibilities in Utah, Idaho, Arizona, North and South Dakota with the prospect of two or three of these states being added to the oil producing column before the close of 1929. There is active exploration work being carried on in all these states as well as in western Nebraska.

A recapitulation of the crude petroleum in the Rocky Mountain states in 1928 shows a total production of 29,666,095 barrels which was divided among the different states as follows:

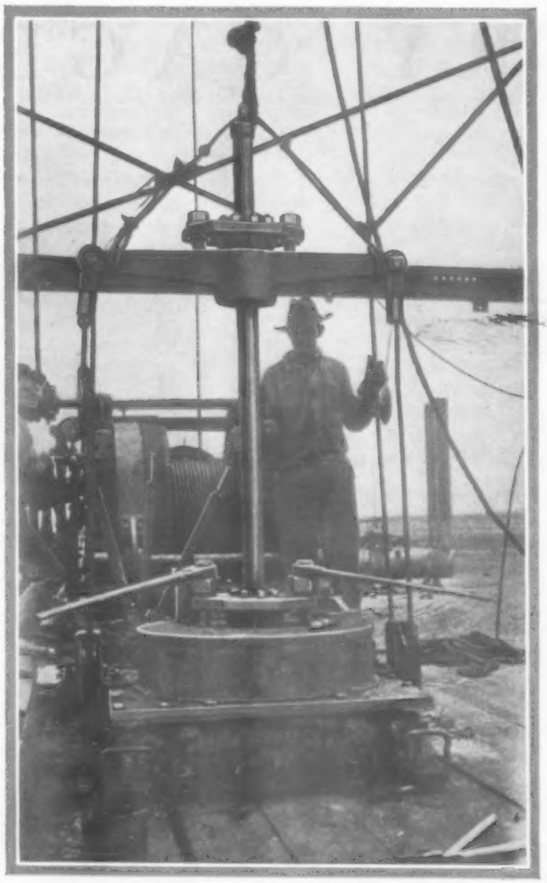
States	Barrels
Wyoming	21,361,795
Montana	4,117,000
Colorado	2,829,300
New Mexico	1,359,200
Totals	29,667,295

California Stocks Rise Sharply in December

Los Angeles.—According to figures collected by the American Petroleum Institute, Pacific Coast Office, the total production of crude in California for December amounted to 21,574,703 barrels. This is an average of 695,958 barrels daily, or an increase of 32,374 barrels a day over the November production. Total stocks of crude and all products on the Pacific Coast increased during December 1,458,858 barrels. The total stocks at the end of the month were 141,057,009 barrels, an increase of 738,392 barrels. There were 10,711 active producing oil wells in operation in California on December 31, while the new operations totaled 737.

A resume of California operations for the year 1928 shows that the total production aggregated about 231,982,597 barrels, a daily average of 633,832; 712 wells were completed during the year, with a total initial output of 681,629 barrels.

For Drilling Against Pressure and in Caving Formations



Sheldon-Burden Rotary, equipped with hydraulic, snubbing in flush joint drill pipe against 1000 pounds gas pressure, Hendrick's Pool, Winkler County, Texas. This equipment can successfully control 3- to 6-inch flush joint drill pipe against pressures in excess of 1000 pounds.

The modern way — with Sheldon-Burden Equipment— is less expensive, safer, and saves time.

You can use your present rig, with the following special equipment—

Flush joint drill pipe and tool joints,
Double deck stuffing box,
Back pressure valve,
Sheldon-Burden hydraulic feed rotary.

Or we can furnish a complete outfit, mounted as a single unit, including engine, draw works, and rotary. Type D, rated capacity 2500 feet; Type C, 5000 feet. These ratings are conservative: One Type D recently drilled two wells of 4160 and 3625 feet respectively.

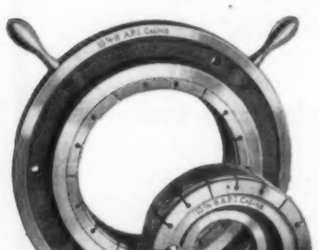
Sheldon-Burden Drills can be moved on and off the job quicker than any other equipment of equal capacity.

Let us tell you what Sheldon-Burden Equipment has done and is doing for others. Then you can judge how much money it would save for you. Catalogue and complete information on request.

Sheldon Machinery Corporation

15 Park Row, New York

OIL COUNTRY GAGES



P & W 24½" A. P. I. Casing Gages, plug and ring. We make these gages in the various sizes to check the threads of the complete range of A. P. I. casing.

Pratt & Whitney Oil Country Gages include:

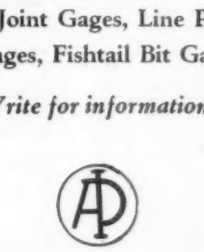
Plain and Upset Oil Well Tubing Gages
Interior Upset Drill Pipe Gages
Cable Drilling Tool Joint Gages
Plain and Upset Casing Gages
Rotary Taper Joint Gages, Line Pipe Gages
Sucker Rod Gages, Fishtail Bit Gages

Write for information

A P & W Double Ring Taper Gage checking the variation from true taper of pipe threads.

WHEN the American Petroleum Institute developed its program for the standardization of drilling tools and equipment, they needed Grand Master Gages of various types. The specifications were so rigid and the physical production of such gages was so difficult that only long-experienced and the most expert gage makers could produce them. Pratt & Whitney made all the gages required to the entire satisfaction of the A. P. I.

As a direct result of this, P. & W. master and working gages have become the standards in the oil fields. They have the essential accuracy and the requisite qualities for long service. You should know about them if you are a manufacturer or a user of threaded tubular goods.



PRATT & WHITNEY CO., *Hartford, Conn.*
Division NILES-BEMENT-POND COMPANY

Sales Offices

BIRMINGHAM
BOSTON
CHICAGO
CINCINNATI
CLEVELAND
DETROIT
LOS ANGELES
NEW YORK
PHILADELPHIA
PITTSBURGH
ROCHESTER
SAN FRANCISCO
ST. LOUIS

Redevelopment of Long Beach Gives California Production Boost

By BRAD MILLS
Staff Representative

MANY important discoveries, several of which are expected to have a far-reaching effect on the future production of the state, made 1928 one of the outstanding years in a decade and promise to keep California within striking distance of first honors for some time to come. The nature of the developments of the year covered an unusually wide scope, ranging from the discovery of productive deep sands in the older fields to sensational light oil producing areas unlike any ever found in the state. These discoveries came in rapid succession and both their immediate and future effect will certainly be felt. The usual number of black oil fields also made their appearance and some seem to offer more than ordinary promise.

The re-development of the Long Beach field was the outstanding feature during the greater part of the year. Running true to form, this area climbed steadily from 100,000 barrels to more than 200,000 barrels by the middle of the year. Spurred by large producers in all parts of the field, the deepening campaign gained momentum until at one time more than 200 wells were drilling. New locations kept pace with completions, but production climbed slowly during the first three months of the year. The slump proved to be nothing serious and soon after the middle of June production reached a peak of 205,000 barrels. Average production during both June and July ran perilously close to 200,000 barrels.

Deep Drilling

Completion of the first well below 7000 feet was heralded as a real achievement—and it was; but the operators, vieing with one another for the record, kept plugging away until the 8000-foot mark was reached. Wells were completed at 7500 feet with amazing regularity, and a careful study of field conditions and the use of heavier equipment made such depths comparatively easy. When the deepening campaign first became a reality, operators expected to complete their wells around 6000 feet. The re-development of the Long Beach field has made still greater depths possible and was responsible for notable improvements in equipment.

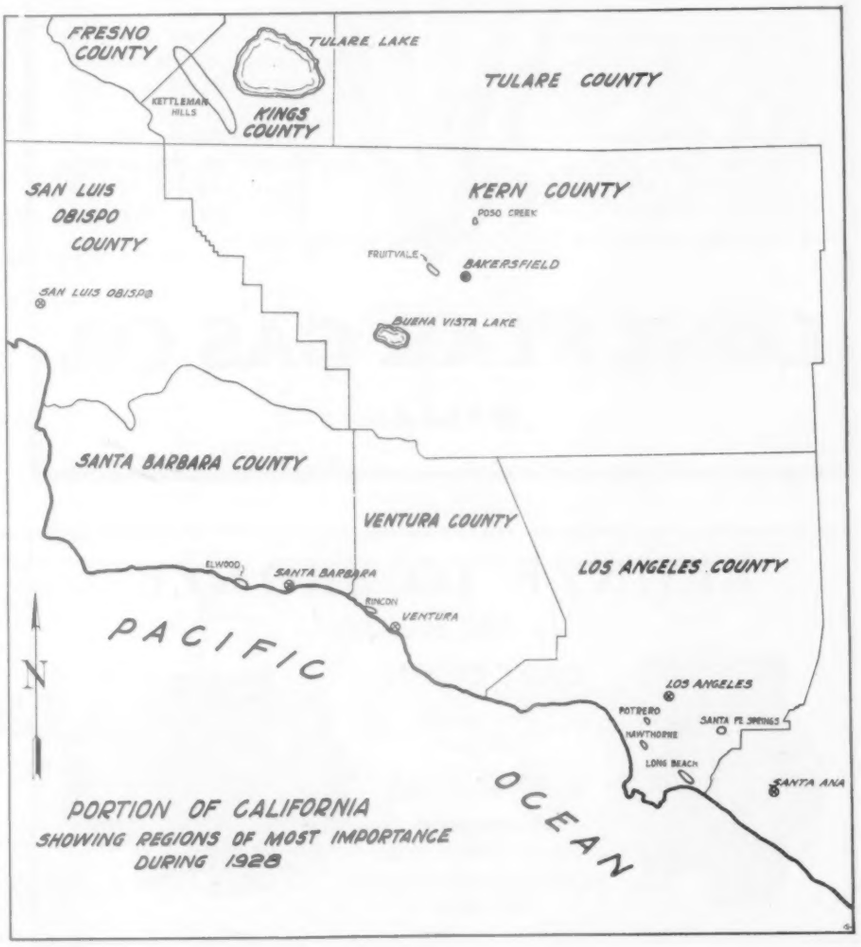
Soon after the middle of the year, it was apparent that the peak had been definitely passed. Even at that time, there were more than 175 wells drilling. At the very best, only a modest decline could be expected. This decline did come, but it was extremely flat and Long Beach continued to be the greatest market factor long after the peak was reached.

At the end of 1928, drilling wells numbered 175, a very high number when it was considered that the peak had been passed and large wells had become rare. Few new locations were made during the last three months. Production was hovering around 185,000, with new completions nearly offsetting the natural decline of the field.

A survey of the field at the beginning of 1929 revealed that the production trend should be steadily downward, despite the large number of drilling wells, and no further trouble is expected during the year. The discovery of a still deeper sand does not sound logical, and there is some doubt whether it could be drilled successfully if it were found. The field will be a strong market factor throughout the year, due principally to its location and the quality of the oil it produces.

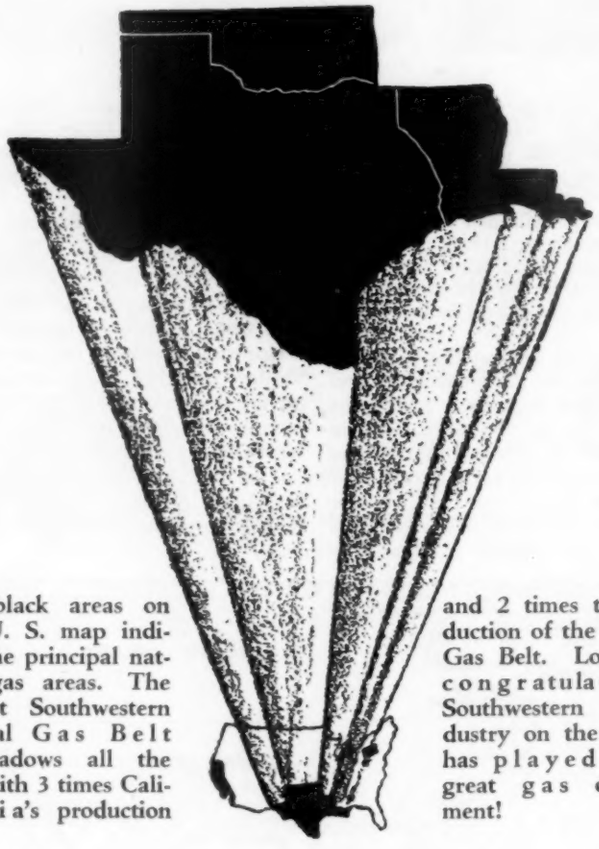
Santa Fe Springs

Late in July the startling announcement that a new producing zone had been found in the Santa Fe Springs field was made, and within a few days the operators were assembling material for another major drilling campaign. The exact production of the discovery was never known, but it was enough to cause the usual wave of excitement. Due to the nature of the leases in the field, little could be done to stop activities. Already the crude market was struggling to absorb the increased produc-



GET THIS PICTURE

of the Southwestern Natural Gas Belt!



The black areas on this U. S. map indicate the principal natural gas areas. The great Southwestern Natural Gas Belt overshadows all the rest, with 3 times California's production and 2 times the production of the Eastern Gas Belt. Lone Star congratulates the Southwestern oil industry on the part it has played in this great gas development!

LONE STAR GAS CO.

DALLAS

BRONZE TO BRONZE

Is the Reason

DART UNIONS

Give Service
Try them

E. M. Dart Mfg. Company
PROVIDENCE, R. I.

The Fairbanks Company
Distributors

tion from Long Beach, but the usual desire to get the oil while the "getting" was good seized both the smaller and major operators and caution was thrown to the winds. Within 60 days more than 150 wells were drilling at top speed for the Buckbee zone.

The drilling was marred with the usual disasters. One well blew out and caught fire while drilling at 5400 feet, and burned for more than seven weeks before being brought under control. By a rare coincidence, this burning well opened up an entirely new zone. When turned into the tanks after running wild for nearly two months, it gauged 6000 barrels. The Intermediate zone, as it was later called, immediately became a major factor in the drilling campaign. This sand offered many advantages not possessed by the deeper or Buckbee zone, in that it was several hundred feet shallower, more than twice as thick and equally as free from water.

The first wells completed in the Buckbee zone showed a fairly satisfactory condition but indicated that the formation would be considerably smaller than the Meyer zone above. Bottom water made its appearance in edge wells and it was soon determined that the Buckbee zone was only about 200 feet thick at the best. Regardless of this fact, however, 7000-barrel wells began to make their appearance and production marched upward at a terrific rate during November and December. At the end of the year field production had passed 130,000 barrels, of which more than 100,000 barrels were coming from the deeper zones.

Marshalling all equipment available, the operators paid little heed to warnings that over-production of natural gas might cause a crisis or showdown with the State government. By the end of the year, 35 wells had been completed and drilling wells totaled 225. Committees worked feverishly toward conservation, but nothing definite was accomplished. The wastage of gas became a reality while some were still doubting whether there would be a surplus at all.

An elaborate plan for re-pressuring the upper zones with surplus gas from the Buckbee and Intermediate zones was worked out and seemed entirely feasible, but the necessary 80 per cent. of the operators failed to ratify it. The actual cutting back of the wells on a strict proration basis also was suggested, but some of the operators received it coolly. In the meantime, production climbed rapidly.

The Buckbee zone showed some signs of falling below early estimates, but the Intermediate zone came to the rescue; and the two together promised to shove the peak up to a very high point. A committee of engineers placed the possible peak production at 319,000 barrels and the surplus gas production at 385 milion cubic feet. Later estimates placed the peak at not more than 250,000 barrels, with 225,000 barrels as a more probable figure. Each week developments changed the complexion of the situation and the field looked both good and bad from week to week. A 2000-barrel well alongside a 6000-barrel producer created a puzzling situation.

A careful analysis shows that peak pro-

—and speaking of powers

Type P B Power with 20-foot wheel and 24-inch eccentrics

Reid Pumping Powers, found in every producing field where the multiple pumping of wells has proven successful, have established a reputation for service unexcelled by any other oilfield unit.

In Pennsylvania where the wells are shallow, or in Texas where the wells are deep, Reid Powers do their intended work, day after day and year after year, requiring very little attention from the operator and practically no upkeep expense.

There is a Reid Power of suitable capacity for your lease whether the power requirement is 15 H.P. or 100 H.P.

Reid Band Wheel Powers can be equipped with bronze bearings or Timken Tapered Roller Bearings.

Write any branch or distributor for descriptive bulletins on Reid Pumping Powers.

JOSEPH REID GAS ENGINE CO.

OIL CITY, PENNSYLVANIA, U. S. A.

BRANCHES—Marietta, Newark, and Logan, Ohio; Charleston, W. Va.; Shreveport, La.; S. R. Shoup, 724 Board of Trade Building, Los Angeles, California.
BRANCH SHOP—Tulsa, Oklahoma.
EXPORT SALES REPRESENTATIVE—Oil field Equipment Co., Inc., 30 Church Street, New York City.

DISTRIBUTORS—Frick-Reid Supply Corp. Pittsburgh, Pa., and Tulsa, Oklahoma, Distributors for Bradford and Pittsburgh, Pa., Kentucky, Oklahoma, Kansas, Texas, Arkansas, and Wyoming; R. B. Moore, Bolivar, N. Y.; distributed in California by The Republic Supply Co. of California, office address, 2122 East Seventh St., Los Angeles, Cal.

This is the Vital spot that determines belt efficiency

Look at it this way

On every belt delivering power—especially those on heavy oil field duty—there is one spot which determines to a remarkable degree the efficiency and length of life of the belt. That spot is where the belt is joined.
Correct belt joining can be secured by any belt user through the simple expedient of specifying that Crescent Plates and Crescent Rivets be used exclusively in making belt joinings.

Crescent made joinings *reinforce* the belt at its most critical point. They are easily made and they last as long as the belt.

Let us send you our Data Book which tells how any workman can—right on the job—apply Crescent Belt Fasteners.

Crescent Belt Fastener Company
243 Park Avenue, New York, N. Y.

Simplex Jacks

for Oil Field Service and Every Type of Industry

including Utilities · Railways · Mining · Contractors · Pole Pulling · Pipe Pushing · Cable Reel Jacks · Simplex Screw Jacks - with the Visible Screw ·

Distinctive in Man Power, Safety & Simplicity

At Your Supply House
Templeton, Kenly & Co., Chicago, Ill., U·S·A·
The World's Largest Manufacturers of Jacks

duction should be reached late in February or early in March. Unforeseen developments may delay the maximum production, however. Upward of 100 wells were due for completion during January and February, with about an equal number to follow at uncertain intervals. The average initial production of the wells completed to January 1 was about 3500 barrels, but such a high average was not expected to continue.

Some parts of the field which produced satisfactorily in the Meyer zone proved to be dry in the Buckbee and Intermediate zones. The southeast part of the field had yielded the best wells, with the northwest portion most uncertain.

Santa Fe Springs is expected to cause some trouble during the early months of 1929, but should decline fairly rapidly from its peak. There was considerable evidence that production will not plunge violently downward from the peak, as some graphs have shown. Even during the summer months, the field is expected to show a large production of both oil and gas. The Buckbee zone is comparatively thin, but the Intermediate zone will undoubtedly help to check what otherwise would be a very rapid decline. Some of the wells started will not be finished, while a few probably will attempt to produce from the Meyer zone, rather than lose their wells.

Hawthorne

After several years of persistent effort, a commercial well was completed in the Hawthorne district, which lies a few miles north of the Torrance field and about 12 miles southwest of Los Angeles. The discovery well was small and failed to attract the usual attention. The major companies holding extensive acreage in the district had become "soured" on the area and refused to become excited about a 200-barrel well at 5800 feet. One company had spent more than a million dollars in a vain effort to obtain production, but boasted nothing more than a few gas blowouts for its pains. Other companies had secured protection acreage at fancy prices, but several years of unsuccessful effort had convinced them that the district was not worth further energy. A puzzling water situation had prevented successful tests in fully a dozen tests. Thin layers of water sand had been found below 5000 feet in several wells, but a water shutoff never was effected. The discovery well was too small to prove anything definite, but the completion of a 1000-barrel well was the spark that set off a new wave of activity. Almost overnight, several wells were started, but not until nearly all available acreage was acquired. The Hawthorne field partially lies within the corporate limits of a small municipality and may develop into a townlot proposition. It holds much promise and may even become a factor in production in the Los Angeles Basin before the end of the year.

Potrero

Potrero, a closely watched area, made a rather unimpressive showing during the year. Four wells were drilled but only one new producer completed. Developments indicated that the trend of produc-

(Continued on page 212)

Here's the extra good working combination . . . a couple of helping hands to help your crews *speed* up their work

. . . . . *both have the spring-latch —a time saving Safety factor*

WILSON SPEED ELEVATOR

WILSON ROTARY TONG

It's a Wilson

Succeeding WILSON & WILLARD MFG. CO.

WILSON OIL TOOLS CORP.

OIL TOOLS DIVISION

of

Byron Jackson Pump Co.

2501 E. Vernon Avenue, Los Angeles, California

Products—Elevators · Tongs · Underreamers · Circulating Heads · Rotary Drive Bushings · Pistons and Valves for Slush Pumps · Slotted Screen Pipe

Factory Representatives:

Tulsa, Oklahoma, 214 East Brady St.
Houston, Texas, 2201 Breckenridge St.
Fort Worth, Texas, 814 Dan Waggoner Bldg.
New York, N. Y., 1245 Graybar Bldg.

WILLIAMS BROTHERS, INC.

PIPE LINE CONTRACTORS

Equipped to Construct Oil or Gas Pipe Lines of Any Type, Size or Length

Under Construction

OIL LINES	GAS LINES
Texas-Empire Pipe Line Company	Colorado Interstate Gas Company
Empire Pipe Line Company	Interstate Natural Gas Company

WILLIAMS BROTHERS, INC.

Engineers—Contractors

302 South Cheyenne

TULSA, OKLAHOMA

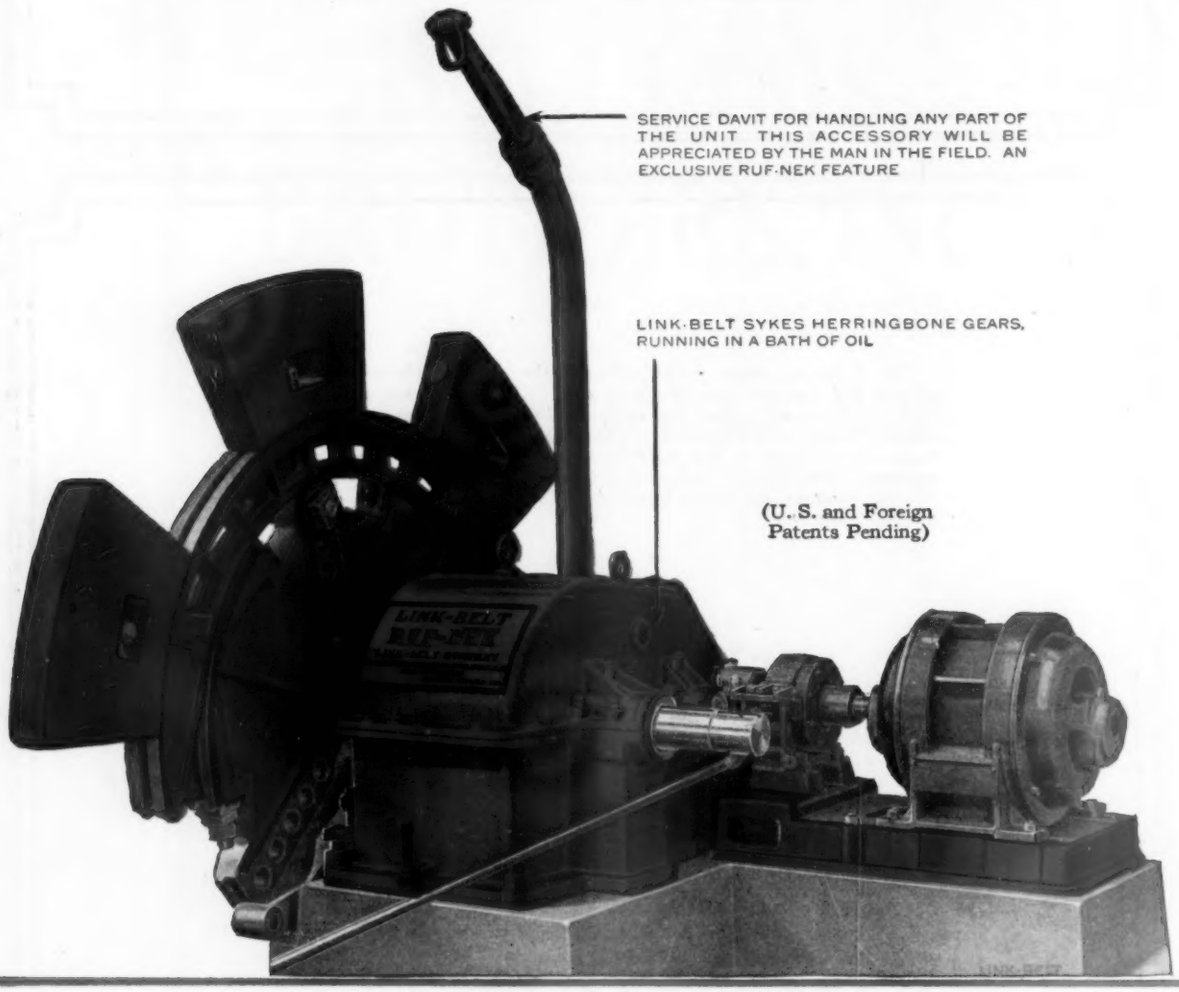
Field Statistics Covering 1928

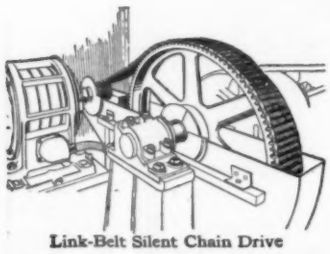
The following pages graphically tell the story of the producing branch of the Oil Industry for the past year. Here will be found figures and statistics answering every question on the economic condition of the producing branch of the business. The tabulations and charts should prove of tremendous value at this time to executives and field men in outlining operating schedules for the coming months. As a premanent reference work this information cannot be equaled. (Charts prepared by H. J. Struth, Staff Economist.)

Index to Statistics

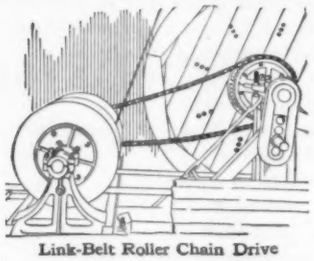
Trend of Crude Production, United States, California, Oklahoma and Texas . . . 137
Monthly Crude Supply and Refinery Demand . . . 140
Monthly Crude Stock Additions and Withdrawals . . . 141
Changes in Posted Price of Pennsylvania, Oklahoma-Kansas and California Crudes . . . 140-142
Annual Crude Production of Leading Fields . . . 144
Monthly Prices of Fuel Oil, Gas Oil and Distillate at Oklahoma Refineries . . . 149
Gasoline Production, Stocks and Domestic Demand, Expressed in Gallons Per Motor Vehicle . . . 149
Trend of Crude Production, Mexico and Venezuela . . . 152
Status of 15 Leading Oil Producing States—1928 Production of Crude . . . 152
Annual Marketed Production of Natural Gas . . . 154
High and Low Quotations, 20 Leading Oil Stocks, in 1928 . . . 154
Monthly Average Price Natural Gasoline in Oklahoma . . . 156
Annual Production, World, United States and Venezuela, 60 years . . . 156
Exports and Imports of Crude and Refined Oils . . . 158
World's Production of Crude Since 1857 . . . 161
United States Production, 1859-1928 . . . 163
Petroleum Produced in United States by States, 1928 . . . 164
California Petroleum Production . . . 166
Texas Production by Fields by Years . . . 170
Louisiana Production, 1905-1928 . . . 174
Wyoming Production, 1894-1928 . . . 176
Arkansas Production by Fields . . . 176
United States Field Statistics, 1928 . . . 179

The RUF-NEK

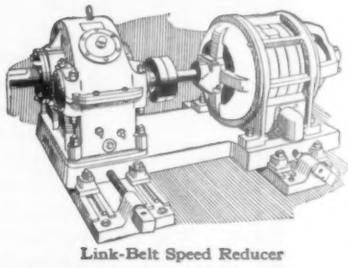

SERVICE DAVIT FOR HANDLING ANY PART OF THE UNIT THIS ACCESSORY WILL BE APPRECIATED BY THE MAN IN THE FIELD. AN EXCLUSIVE RUF-NEK FEATURE
LINK-BELT SYKES HERRINGBONE GEARS, RUNNING IN A BATH OF OIL
(U. S. and Foreign Patents Pending)
LINK-BELT
RUF-NEK



Link-Belt Silent Chain Drive



Link-Belt Roller Chain Drive



Link-Belt Speed Reducer

LINK-BELT
EQUIPMENT FOR

Say you saw it in The OIL WEEKLY

Pumping Unit for Oil Wells

THE Ruf-Nek is a unique pumping unit for oil wells, that will drive the draw works, a washout pump, or a small rotary, without additional equipment.

A counterweight mechanism is provided that permits adjustment of the counterweights, so as to produce any desired counter-balancing effect. It is thus possible to balance the pumping load accurately for any and all conditions.

The counterweight mechanism can be quickly and easily detached when unit is used for servicing a well.

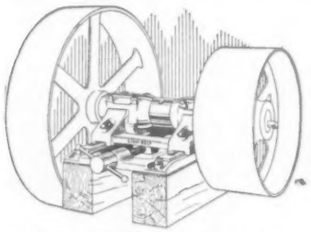
The Ruf-Nek is designed, built and backed by Link-Belt. Send for a copy of Book No. 780 and list of users.

LINK-BELT COMPANY 3634

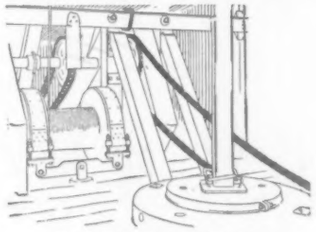
Leading Manufacturers of Elevating, Conveying, and Power Transmission Chains and Machinery

PHILADELPHIA, 2045 W. Hunting Park Ave. INDIANAPOLIS, 200 S. Belmont Ave.
LOS ANGELES, 361 S. Anderson St. CHICAGO, 300 W. Pershing Road

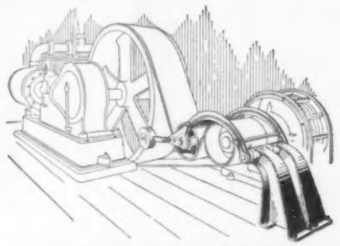
Distributors: Texas Iron Works Sales Corporation; The Parkersburg Rig and Reel Co.



Link-Belt Oil-Well Countershaft



Link-Belt Rotary Chain

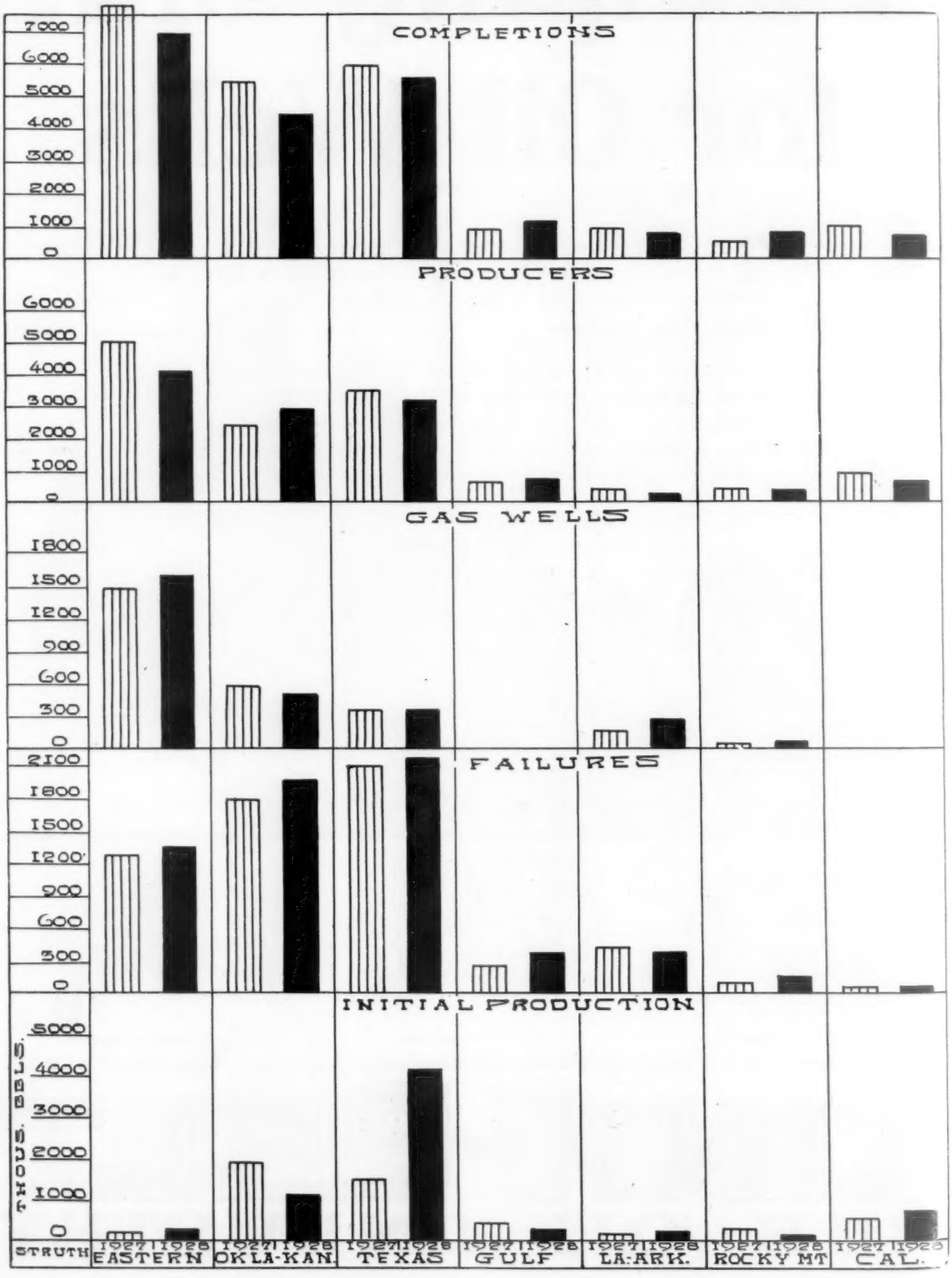


Meeseco Short-Center Belt Drive

LINK-BELT
THE OIL INDUSTRY

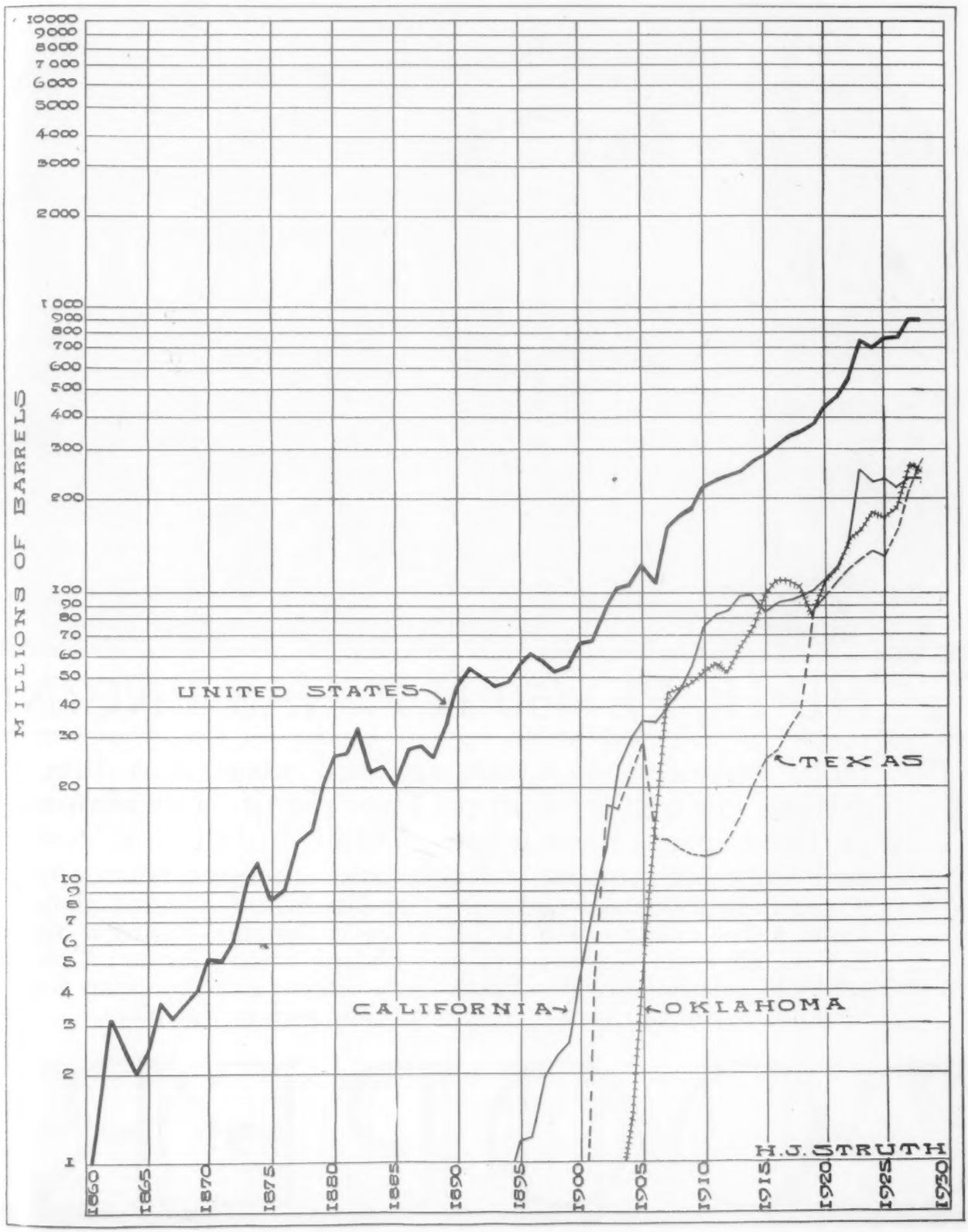
Say you saw it in The OIL WEEKLY

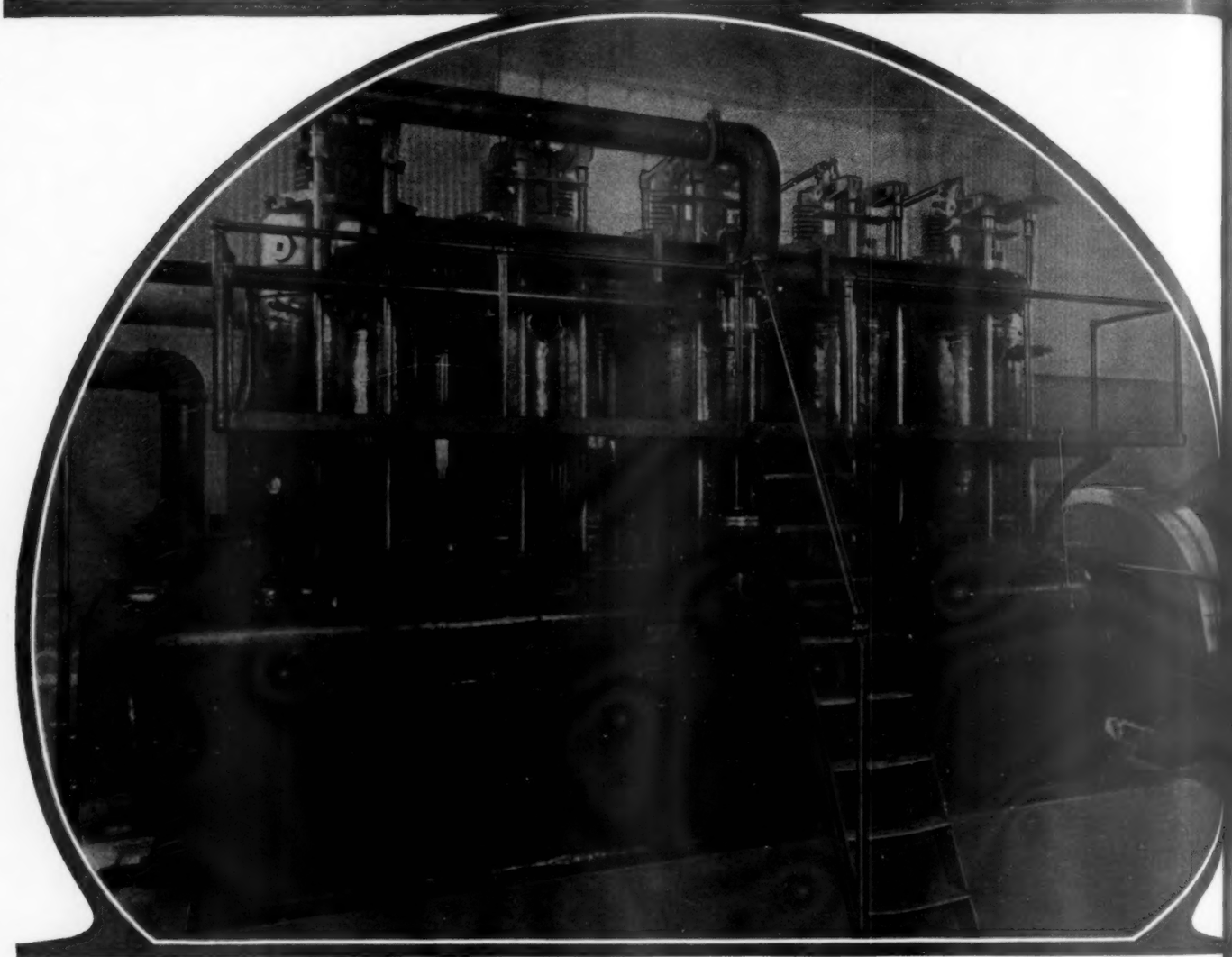
FIELD RESULTS 1927-1928



TREND OF CRUDE PRODUCTION

United States, California, Oklahoma and Texas





THE HOPE 450 H.P. GAS ENGINE

Hope vertical gas engines are well adapted to direct driving electric generators. They require a minimum of floor space, have a low overall installation cost, and they are a more reliable and cheaper source of power than purchased current. The installation pictured above shows a five cylinder 450 B.H.P. Hope gas engine driving a 375 K.V.A., 60 cycle alternator in the United States Gypsum Company's plant at Sweetwater, Texas. Let a Cooper engineer show you how much you can save by installing your own power plant.

COOPER

Say you saw it in The OIL WEEKLY

Hope Engines Now Built And Serviced By Cooper

THE C. & G. Cooper Company has purchased outright the manufacturing division of the Hope Engineering Company, including the well-known Hope vertical gas engines. The factory in which they were built at Mt. Vernon, Ohio, is being operated as a unit of the Cooper plant.

The complete line of Hope vertical engines is to be still further improved and many details of design, developed on Cooper horizontal engines, have already been added. They will be built in standard sizes ranging from 60 to 540 B. H. P. for every power purpose. For the present the 170 - 250 - 360 - 450 and 540 H. P. sizes will be built on a quantity production basis.

All Hope Engineering sales offices will continue to sell Hope engines. You may, however, if you prefer, buy Hope engines through any Cooper sales office. In either case, please remember that Coopers assume full responsibility for the quality of materials and workmanship and for the field service on all Hope vertical engines sold in the future.

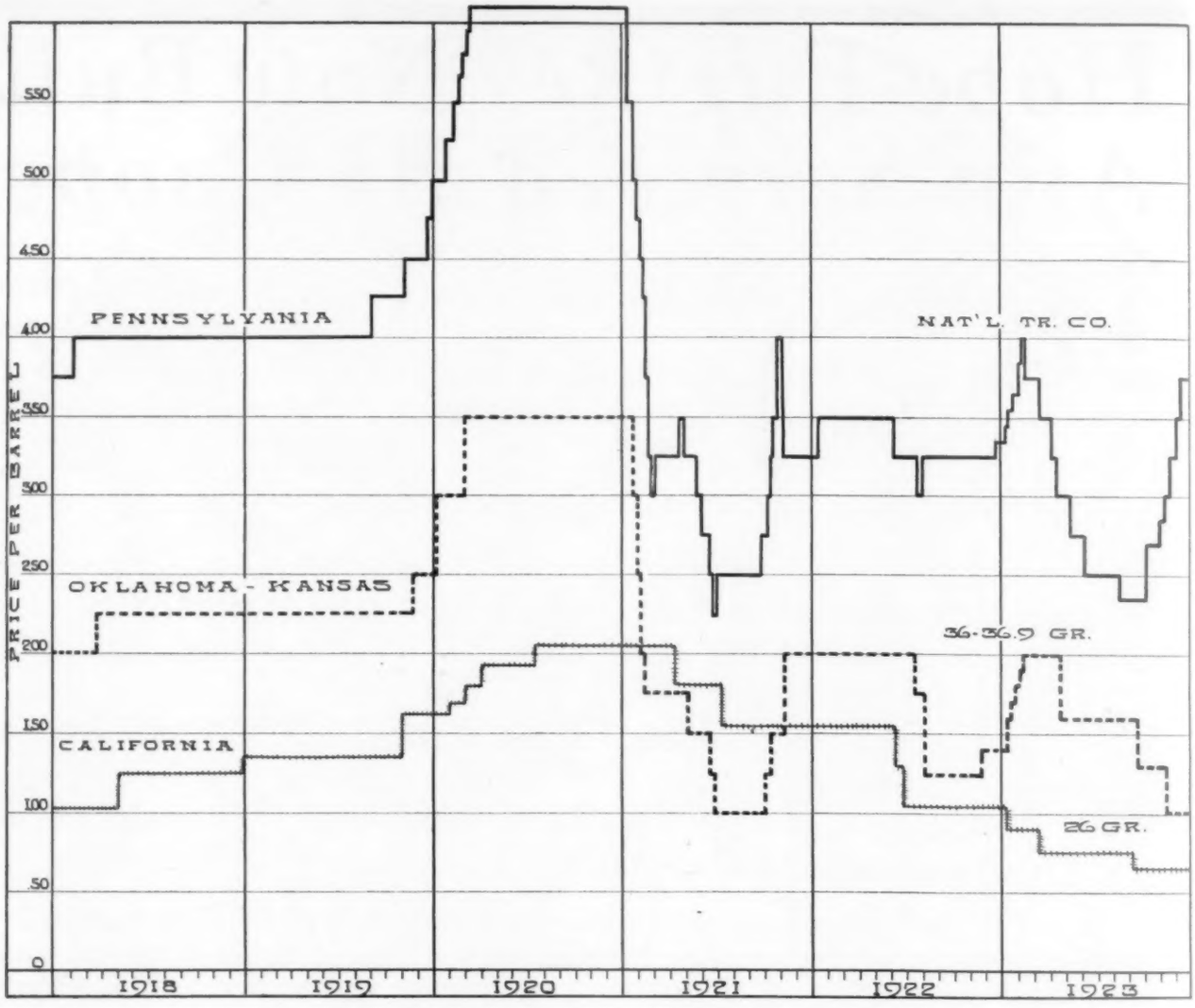
Cooper engineers are convinced that the present design of Hope engine is the best vertical engine in the field and are interested in making it still better. This line of vertical engines will be an addition to the regular Cooper line of horizontal engines and compressors which are being built in sizes from 50 to 1500 B.H.P. This combined line of vertical and horizontal engines will now permit you to use Cooper quality machinery and service for all your engine and compressor requirements.

THE C. & G. COOPER COMPANY

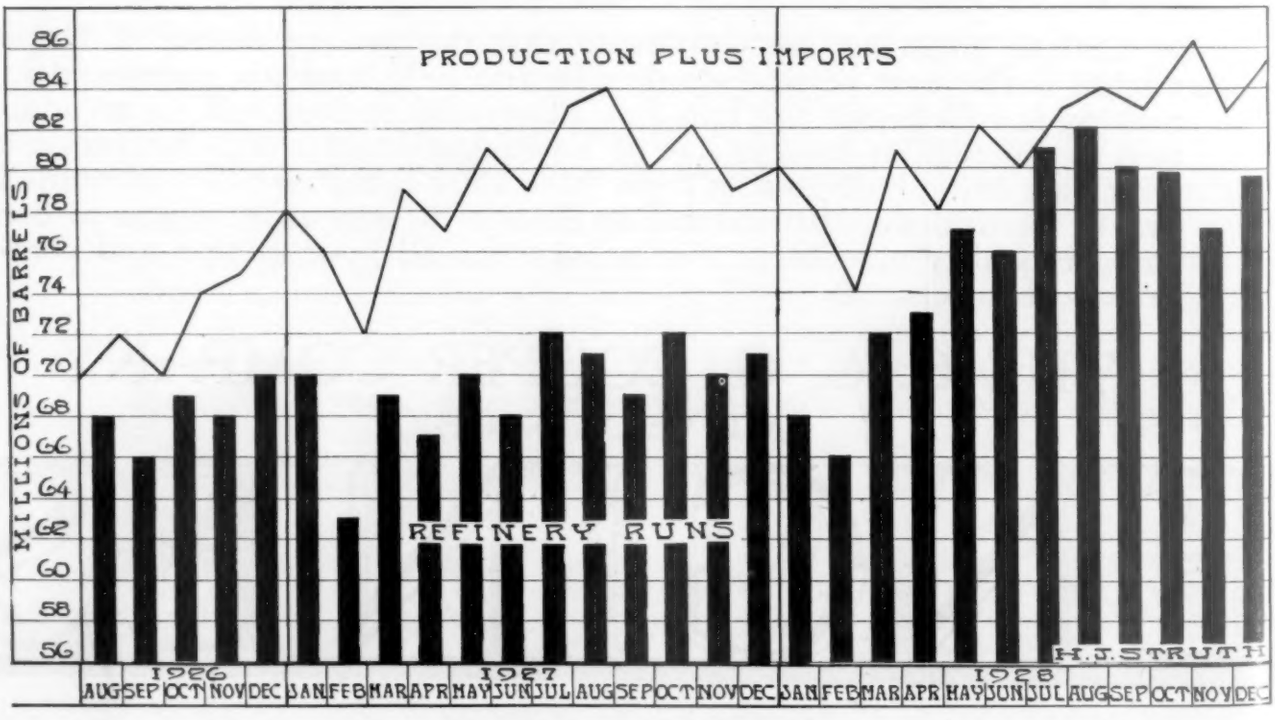
MT. VERNON, OHIO

ENGINES

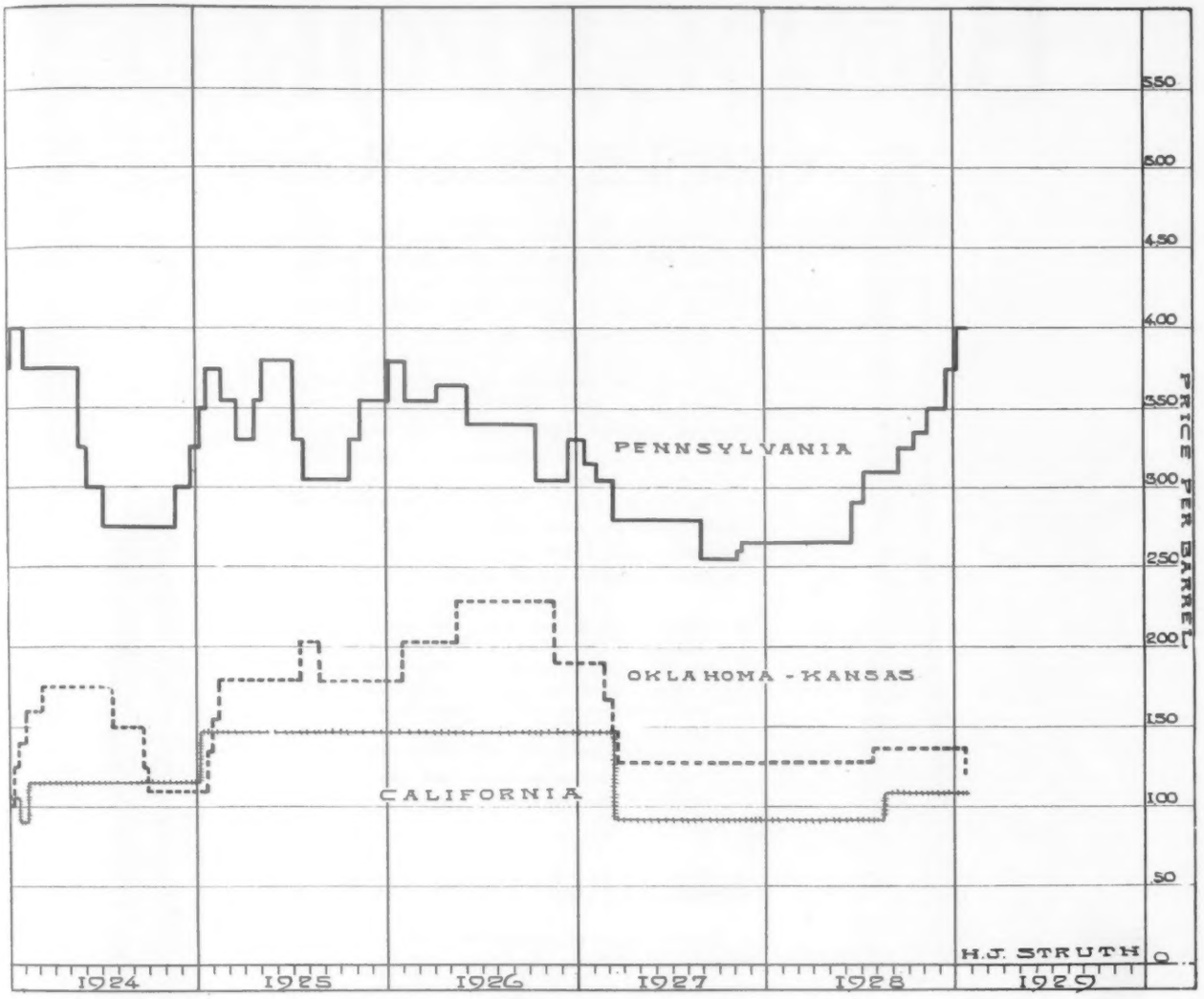
CHANGES IN POSTED PRICES OF PENNSYLVANIA



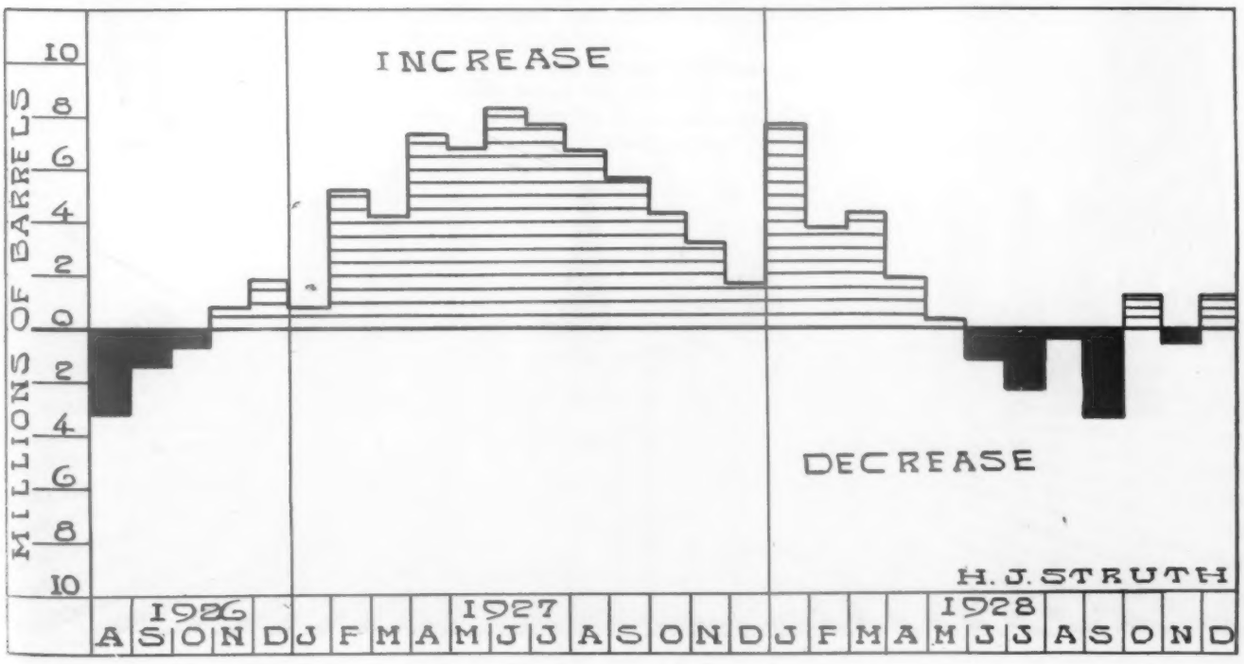
Monthly Crude Supply and Refinery Demand



OKLAHOMA, KANSAS AND CALIFORNIA CRUDES



Monthly Crude Stock Additions and Withdrawals



BRIDGEPORT

Complete Cable, Rotary

New Type Swan

Bridgeport Service is complete, in all lines of oil field equipment, from Swan Underreamers, to any type of cable or rotary tool.

The Regular Type Swan Underreamer needs no introduction anywhere. This reamer offers the trade a better product, due to our improved methods of manufacture, using special alloy steel and heat treating. The present Regular Type Swan Underreamer is from 50% to 100% stronger and more efficient than formerly.

The New Type Swan Underreamer is made under the same strict supervision as the regular type. Here are some outstanding features, superior to all other underreamers:

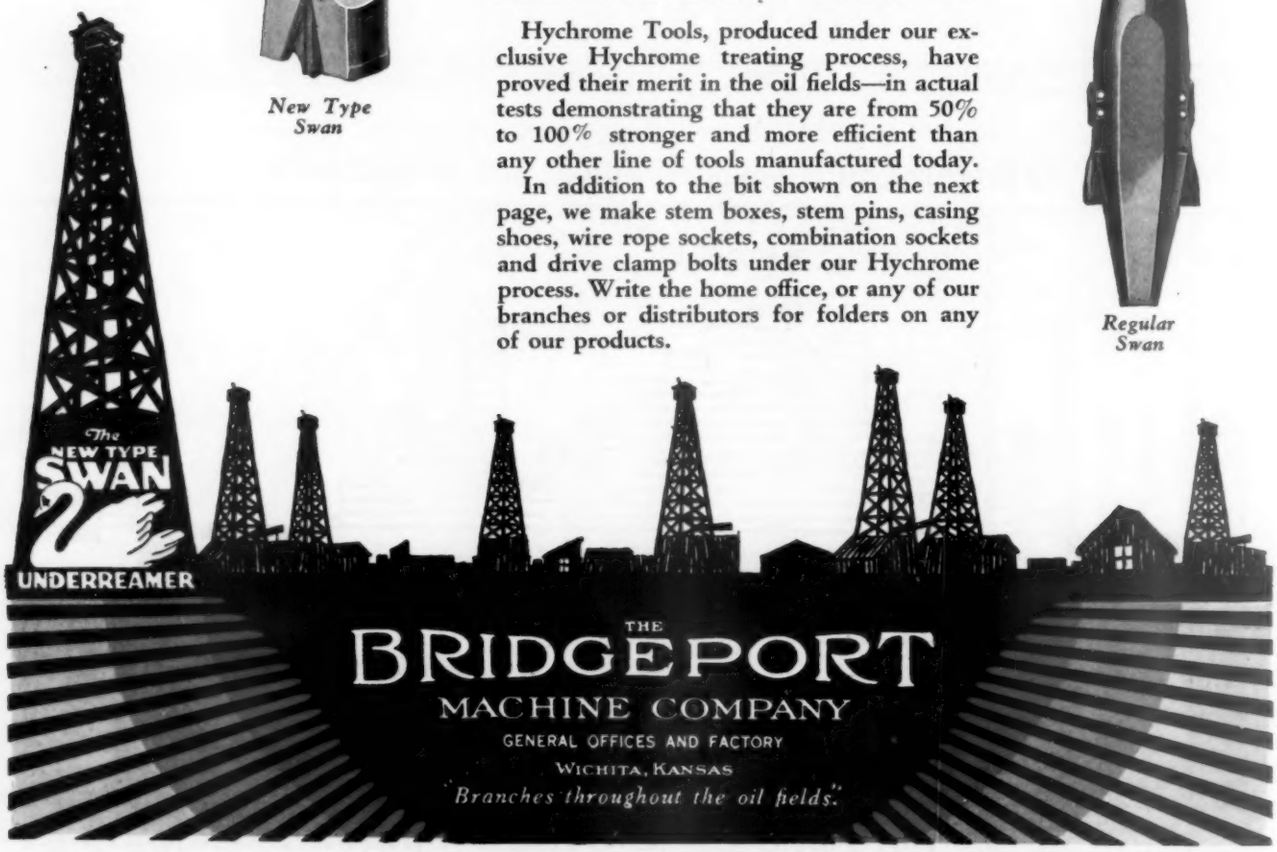
1. Cutters interlock and must pull down evenly, making it the easiest pulling underreamer.
2. Cutters are supported from cutting edge to cutting edge by solid steel—the only bottom hole type underreamer with this feature.
3. Operator can run in without any friction on casing, by placing nail in holes in cutter arms.
4. It has the fewest parts of any underreamer made. It is field proven—not in the experimental stage.

Regular Swan

HYCHROME TOOLS

Hychrome Tools, produced under our exclusive Hychrome treating process, have proved their merit in the oil fields—in actual tests demonstrating that they are from 50% to 100% stronger and more efficient than any other line of tools manufactured today.

In addition to the bit shown on the next page, we make stem boxes, stem pins, casing shoes, wire rope sockets, combination sockets and drive clamp bolts under our Hychrome process. Write the home office, or any of our branches or distributors for folders on any of our products.



OFFERS YOU

and Rental Service

Here is a representative list of products which you can secure through Bridgeport; either by purchase, or on a rental basis, backed by 24-hour service:

Belting—Lagface
Drilling Bits—Hychrome
Rock Bits, Hughes
Disc Bits, Guiberson
Boilers, Lucey
Manila Cordage, Wall
Draw Works, Lucey
Pumps, Rotary, Lucey
Pumps, Regular, Dean Bros.
Steam Engines, Lucey
Rotary Engines, Lucey
Gas Engines, Wright
Tool Joints, Hughes and Lucey
Jars, Spang and Leidecker
Crown Blocks, Lucey
Traveling Blocks, Lucey
Casing Blocks, Bridgeport
Pittsburg Steel Products Co.'s Seamless Tubular Goods
South Chester Steel and Wrought Iron Tubular Goods
Wire Lines, Williamsport
Fittings, Walworth
Valves, Walworth
Underreamers, Regular and New Type Swan

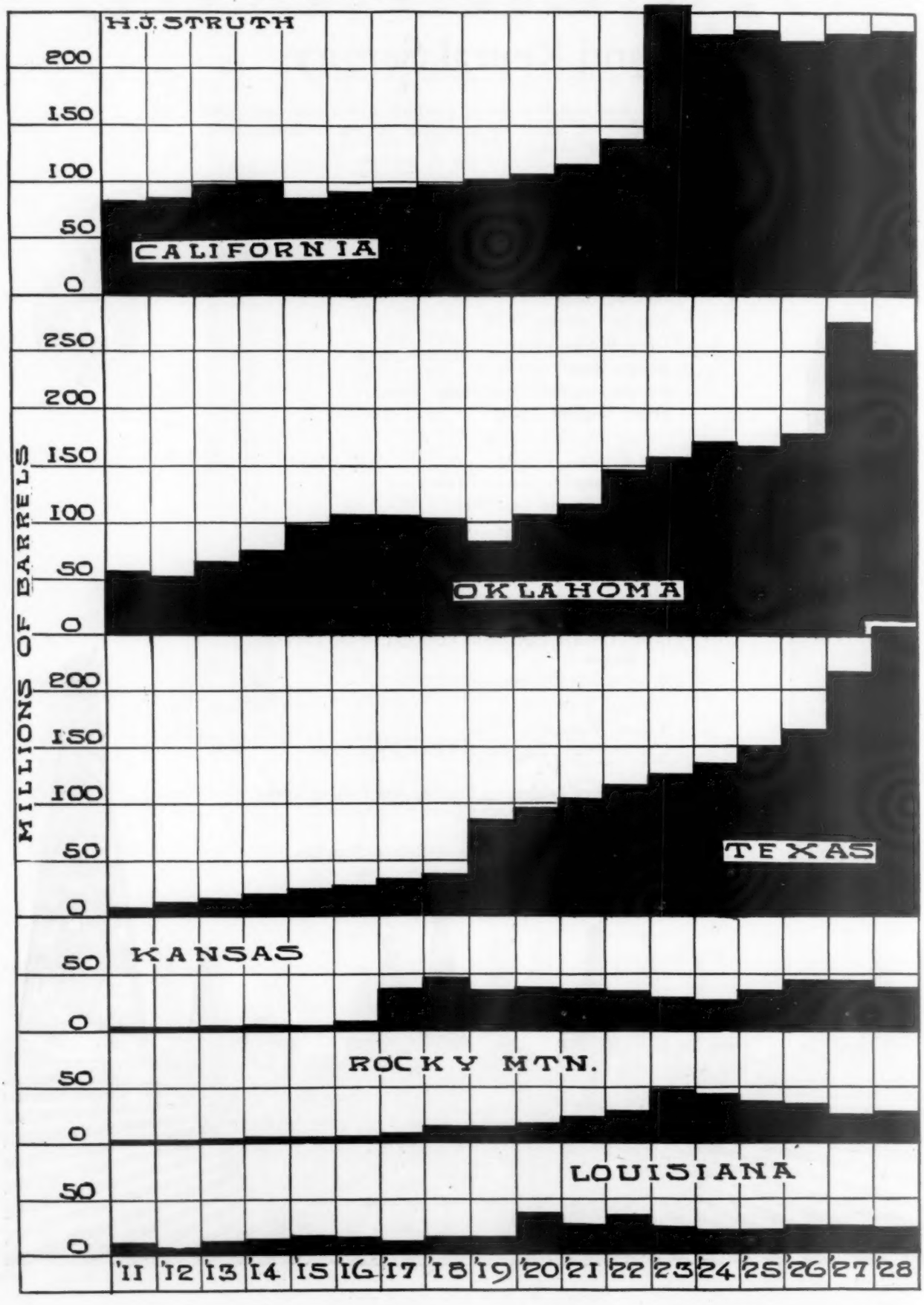
Full Line of Bridgeport Drilling and Fishing Tools.
Full Line of Lucey Rotary Equipment.

Full Line of Cable and Rotary Supplies.

Hychrome Drilling Bit

THE
BRIDGEPORT
MACHINE COMPANY
GENERAL OFFICES AND FACTORY
WICHITA, KANSAS
"Branches throughout the oil fields."

ANNUAL CRUDE PRODUCTION OF LEADING FIELDS



ELASTICITY

CAMEL HAIR BELTING

THERE is a lot of difference between elasticity and stretch. The *stretch* in "Camel Hair" Belting comes out during the first few weeks of operation, but the *elasticity* remains always.

It is an invaluable quality. It comes from the genuine animal hair yarn which runs lengthwise of the belt. It pulls the load and takes the strain.

This quality of elasticity enables a "Camel Hair" Belt to absorb the shocks and strains peculiar to drilling and pumping operations. The life of equipment is thus prolonged to a marked degree.

Hot and cold weather have no effect on a "Camel Hair" Belt. There is no deterioration with age. It is a very flexible belt, and does not lose this flexibility under any conditions. It does not burn from slipping on the pulleys and there can of course be no ply separation, for there are no plies.

We recommend that any company having the facilities for keeping accurate account of ultimate costs try a "Camel Hair" Belt on some particularly difficult job. Prices and other details at the friendly Frick-Reid Store in your field, or direct from our Tulsa office.

"CAMEL HAIR" BELTING

FRICK REID

SUPPLY CORPORATION

Quality Products Only

PITTSBURGH, PA. TULSA, OKLA.

Axelson Machine Co.
Sucker Rods, Pull Rods, Plunger Working Barrels (Pumps) etc.

Beaumont Iron Works Company
Dreadnaught Rotary Equipment Water-Cooled Drawworks, Pumping Hoists, Traveling Blocks, etc.

Donovan Boiler Works
Oil Country Boilers and Tanks.

Frick-Reid Service Belting
Rubber Covered and Friction Surface.

National Transit Pump and Machine Co.
Power and Steam Pumps.

J. P. Ratigan
Grips, Clamps, Beam Hangers.

Joseph Reid Gas Engine Company
Gas and Oil Engines, two and four-cycle, Band Wheel and Direct Drive Pumping Powers.

Whitlock Cordage Co.
Manila Cordage, including Frick-Reid Manila Bull Ropes—same quality for ten years.

Jones & Laughlin Steel Corp.
Seamless and Lapweld Tubular Goods.

Walworth Company
Valves, Fittings and Tools for Steam, Water, Gas, Oil and Air.

Rossendale-Reddaway Company
"Camel Hair" Beltings, Belt Clamps.

Engineering Crews
for the installation of Pumping Powers and related equipment.

"Conserve Natural Resources--

EXTRA SAFETY FEATURES

1. Remote Control.
2. Instantaneous shut-off.
3. Manually operated locking screws.
4. Single Valve control.
5. Flanged connection on bottom for easy installation.
6. Tested and Guaranteed to withstand 2,500 lbs. pressure per square inch.
7. Closed rams, form circle of steel around drill stem securely locking it in well, absolutely assuring that drill stem will not be blown from the hole.

CAMERON IRON WORKS

MFGRS. OF OIL WELL SUPPLIES & FISHING TOOLS

HOUSTON, TEXAS

Say you saw it in The OIL WEEKLY

Protect the Life and Property of Man"

By Equipping All your Wells with the New

CAMERON IRON WORKS STEAM OPERATED BLOWOUT PREVENTERS

THE annual loss of oil and natural gas by blowouts totals millions, to say nothing of the equipment that is lost whenever this catastrophe occurs. Death too, follows in the wake of blowouts. Each year many lives are lost because of the lack of proper protection.

The C-I-W Steam Operated Blowout Preventer is absolute protection against the loss of natural resources, the destruction of equipment, and the loss of life.

This preventer, operated by steam, provides an instantaneous shut-off, and positive locking of the drill stem in the hole. When closed, rams form a steel circle around drill stem, thus making passage of fluid or stem an absolute impossibility, regardless of the pressure.

The rams which are packed with a special packing that becomes tighter as the pressure increases are controlled by a single-double acting valve, that may be located at any remote and convenient point from the well.

The C-I-W Preventer, may be closed by air, gas, or other pressures in the event steam is not available.

CAMERON IRON WORKS

MFGRS. OF OIL WELL SUPPLIES & FISHING TOOLS

HOUSTON, TEXAS

"Conserve Natural Resources--

EXTRA SAFETY FEATURES

1. Remote Control.
2. Instantaneous shut-off.
3. Manually operated locking screws.
4. Single Valve control.
5. Flanged connection on bottom for easy installation.
6. Tested and Guaranteed to withstand 2,500 lbs. pressure per square inch.
7. Closed rams, form circle of steel around drill stem securely locking it in well, absolutely assuring that drill stem will not be blown from the hole.

CAMERON IRON WORKS

MFGRS. OF OIL WELL SUPPLIES & FISHING TOOLS

HOUSTON, TEXAS

Say you saw it in The OIL WEEKLY

Protect the Life and Property of Man"

By Equipping All your Wells with the New

CAMERON IRON WORKS

STEAM OPERATED

BLOWOUT PREVENTERS

THE annual loss of oil and natural gas by blowouts totals millions, to say nothing of the equipment that is lost whenever this catastrophe occurs. Death too, follows in the wake of blowouts. Each year many lives are lost because of the lack of proper protection.

The C-I-W Steam Operated Blowout Preventer is absolute protection against the loss of natural resources, the destruction of equipment, and the loss of life.

This preventer, operated by steam, provides an instantaneous shut-off, and positive locking of the drill stem in the hole. When closed, rams form a steel circle around drill stem, thus making passage of fluid or stem an absolute impossibility, regardless of the pressure.

The rams which are packed with a special packing that becomes tighter as the pressure increases are controlled by a single-double acting valve, that may be located at any remote and convenient point from the well.

The C-I-W Preventer, may be closed by air, gas, or other pressures in the event steam is not available.

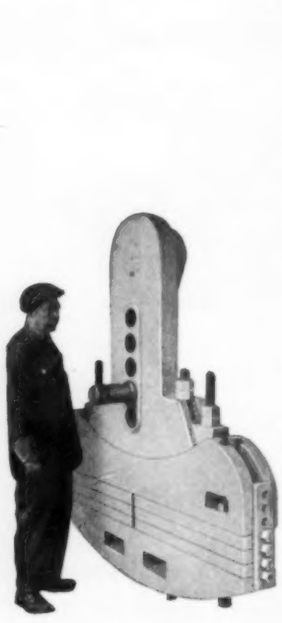
CAMERON IRON WORKS

MFGRS. OF OIL WELL SUPPLIES & FISHING TOOLS

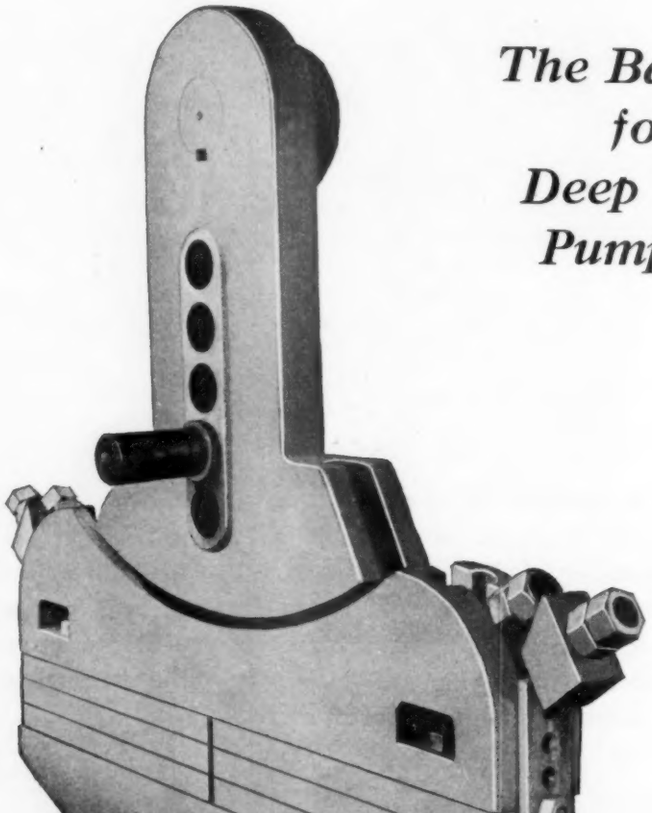
HOUSTON, TEXAS

OCS

Crank Type Equalizer



Request Bulletin 88



The Balance for Deep Well Pumping

PAT. APR. 7, 1926—OTHER PATENTS PENDING

Manufactured by

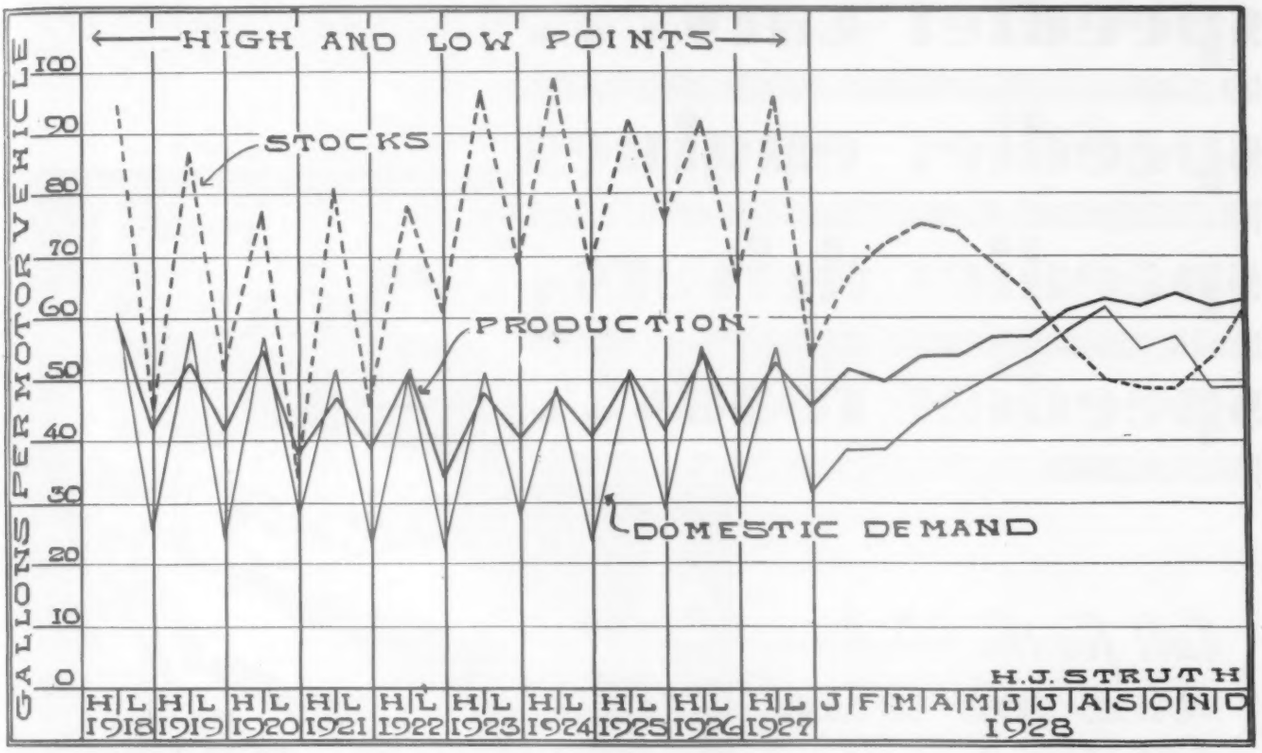
THE OIL COUNTRY SPECIALTIES MFG. CO.

COFFEYVILLE, KANSAS

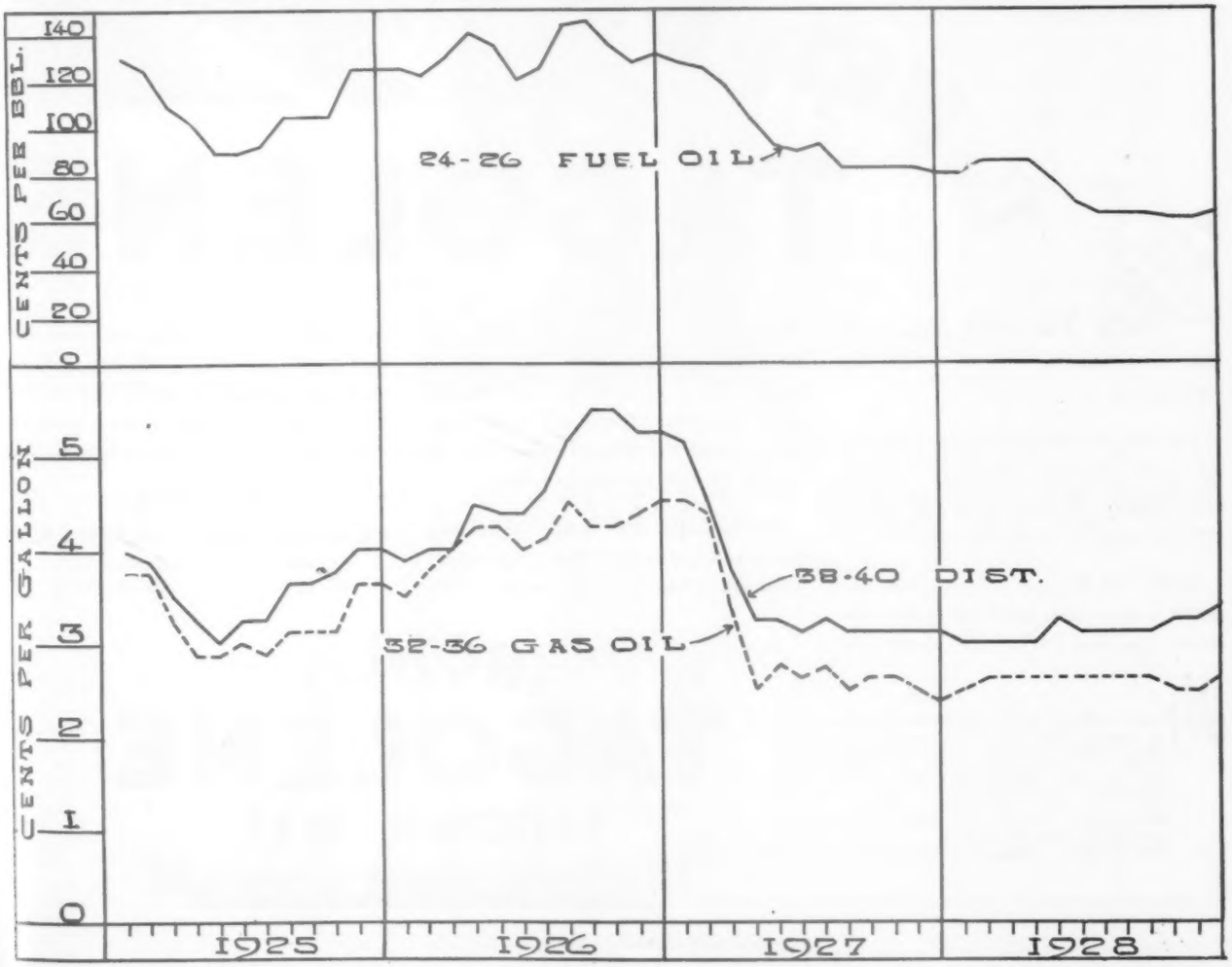
HILLMAN COONEY, INC.
LOS ANGELES

Say you saw it in The OIL WEEKLY

Gasoline Production, Stocks and Domestic Demand Expressed in Gallons Per Motor Vehicle



Monthly Prices of Fuel Oil, Gas Oil and Distillate at Oklahoma Refineries



speedier cars . . .
speedier engines
speedier drivers .
speedier roads . .

Call for the modern
MADE-FOR-SPEED
Lubricant

The NEW TAGOLENE

Quality Has No Substitute — SKELLY

MODERN motors and The New TAGOLENE are made for each other.

The car of today goes faster—abuses oil more—than the car of a few years ago. Without better oil, it will fail to give the service the owner expects.

Skelly Oil Company meets this demand with a new, made-for-speed lubricant, The New TAGOLENE Motor Oil.

RADIO—Listen in every Friday at 10:00 P. M. to the Skellodians with Tag and Lene and Marian West, the Skelly Smile Girl. "Red" network, NBC system.

WLS, Chicago; KSD, St. Louis; WOC, Davenport; WOW, Omaha; WDAF, Kansas City; KOA, Denver; KSTP, St. Paul; and KVOO, Tulsa.

With experience based on making an oil which year after year has increased in sales from 30 to 40 per cent, Skelly chemists have developed a formula which raises the safe oil speed limit to *seventy* or *eighty* miles an hour.

The New TAGOLENE has the fighting qualities to stand off high engine heat hour after hour . . . . to endure long days and nights of truck, tractor or airplane wear. Certainly all car owners want an oil made to stand the stiffest possible abuse. Thirty cents a quart is little enough to pay for such security.

Write, wire or phone

SKELLY OIL COMPANY
EL DORADO, KANS. KANSAS CITY
TULSA OMAHA MINNEAPOLIS

THE NEW
TAGOLENE
MOTOR OIL

30c A QUART

MADE TO STAND ABUSE

Say you saw it in The OIL WEEKLY

THE ROMANCE OF OIL

{Number One of a Series}

The Wildcat

It might be a little pine thicket in Louisiana, a thicket miles back from the road and reached only by crossing the boggy bayou.

It might be forty miles out on the bare prairie in Texas, a spot no whit different than a million similar spots in a territory bigger than the whole of New England.

It might be in a valley in Oklahoma, a valley set off from the rest of the world by a ridge of hills that have turned back civilization since the age of stone.

It might be within a water ball's throw of a luxurious hotel in California where life flows full and pleasure is the order of the day and night.

It might be in a country village in Arkansas only a derrick's length from the magnolia trees that bloom on the courthouse square.

It might be the tapping of the world's greatest oil pool. It might be a thirty thousand dollar hole in the ground.

HERCULES SUPPLY COMPANY

J·T·McCARTHY JR

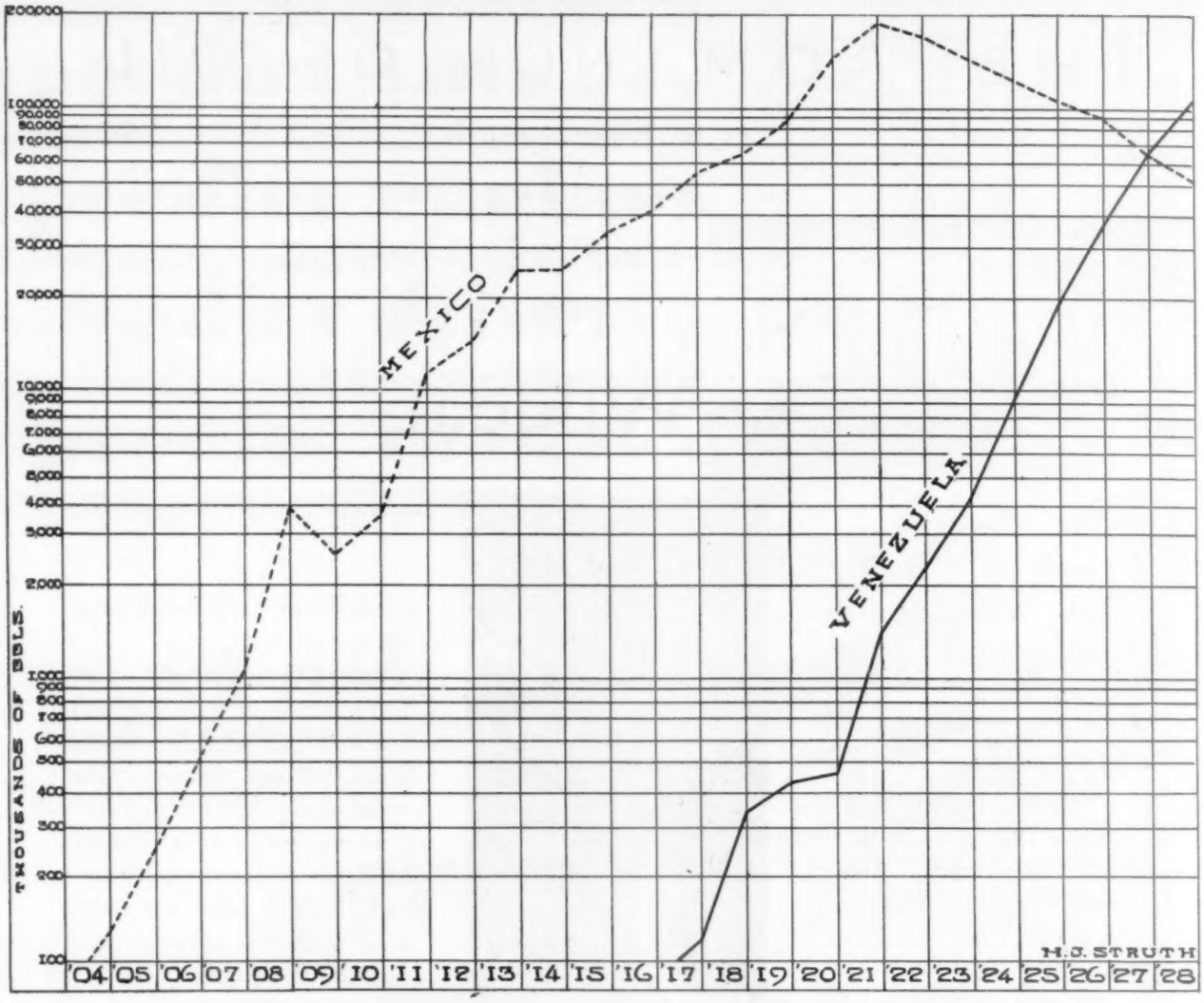
EVERYTHING FOR OIL WELLS

For the driller on a wildcat lease there is nothing as important as a good string of tools. From water pump to traveling block everything must stand up or hours or days will be lost in getting out new stuff. A Hercules store, fully stocked, can take care of the driller from complete rig to the smallest item needed on the derrick floor.

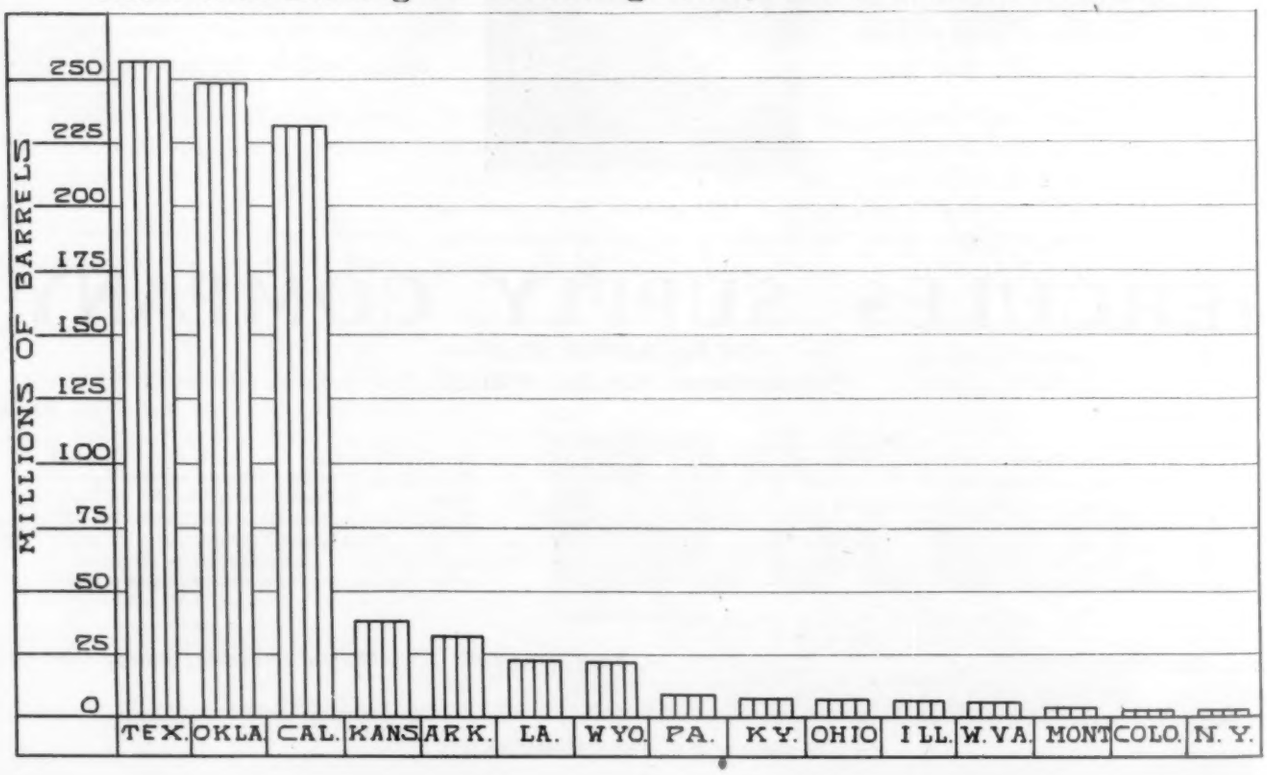
American Wire Lines . Lucey Rotary Products Etna Tubular Products . Standard Seamless Tubular Goods . Guiberson Tubing Catchers and Swabs Hughes Tool Co. Products . Goodrich Packing and Belting . Baker Casing Shoe Products . Walworth and Crane Valves . Bettis Protectors . Hundreds of other lines and items in stock at all Hercules Stores

Stores: Merkel Pyote {Wink} General Offices, FORT WORTH *Borger Vernon {Grayback Crossing}*

Trend of Crude Production, Mexico and Venezuela



Status of 15 Leading Oil Producing States, 1928 Production of Crude



THE FIRST NATIONAL BANK AND TRUST COMPANY OF TULSA
1st
FOUNDED 1895

DIRECTORS

JOHN S. ALCORN	*Vice President Pendulum Investment Co. Ponca City, Okla.*
CLYDE ALEXANDER	*Vice President Phillips Petroleum Co. Bartlesville, Okla.*
A. A. BEARD	*Vice President Tidal Oil Company*
A. E. BRADSHAW	*Vice President*
R. P. BREWER	*Chairman of the Board*
C. C. COLE	*President Acme Lead and Zinc Co.*
J. F. DARBY	*President Darby Petroleum Co. Muskogee, Okla.*
J. J. DEANER	*Oil Producer Okmulgee, Okla.*
GEORGE DYE	*Vice President Wilcox Oil and Gas Co.*
P. J. HURLEY	*Attorney*
FRED W. INSULL	*President Public Service Company of Oklahoma*
HOYLE JONES	*President Superior Tube Co.*
JAMES A. KENNEDY	*Real Estate*
W. L. KISTLER	*President Kistler Petroleum Co.*
CASS A. MAYO	*President Mayos' Incorporated*
R. OTIS McCLINTOCK	*President*
H. O. McCLURE	*President Atlas Life Insurance Co.*
G. R. McCULLOUGH	*Investments*
D. F. McMAHON	*Oil Producer*
D. W. MOFFITT	*Vice President Mid-Continent Petroleum Corporation*
E. J. NICKLOS	*Vice President Marland Production Co. Ponca City, Okla.*
CLYDE H. PAPE	*Secretary-Treasurer Selby Oil & Gas Co.*
WAITE PHILLIPS	*Investments*
R. B. PRINGLE	*Vice President Independent Oil & Gas Co.*
R. C. SHARP	*President Southern Natural Gas Corporation*
W. G. SKELLY	*President Skelly Oil Company*
T. B. SLICK	*Oil Producer Oklahoma City, Okla.*
GEO. W. SNEDDEN	*Vice President Western Oil Corporation*
H. R. STRAIGHT	*Vice President Empire Gas and Fuel Co. Bartlesville, Okla.*

R. P. BREWER, *Chairman of the Board*

R. OTIS McCLINTOCK, *President*

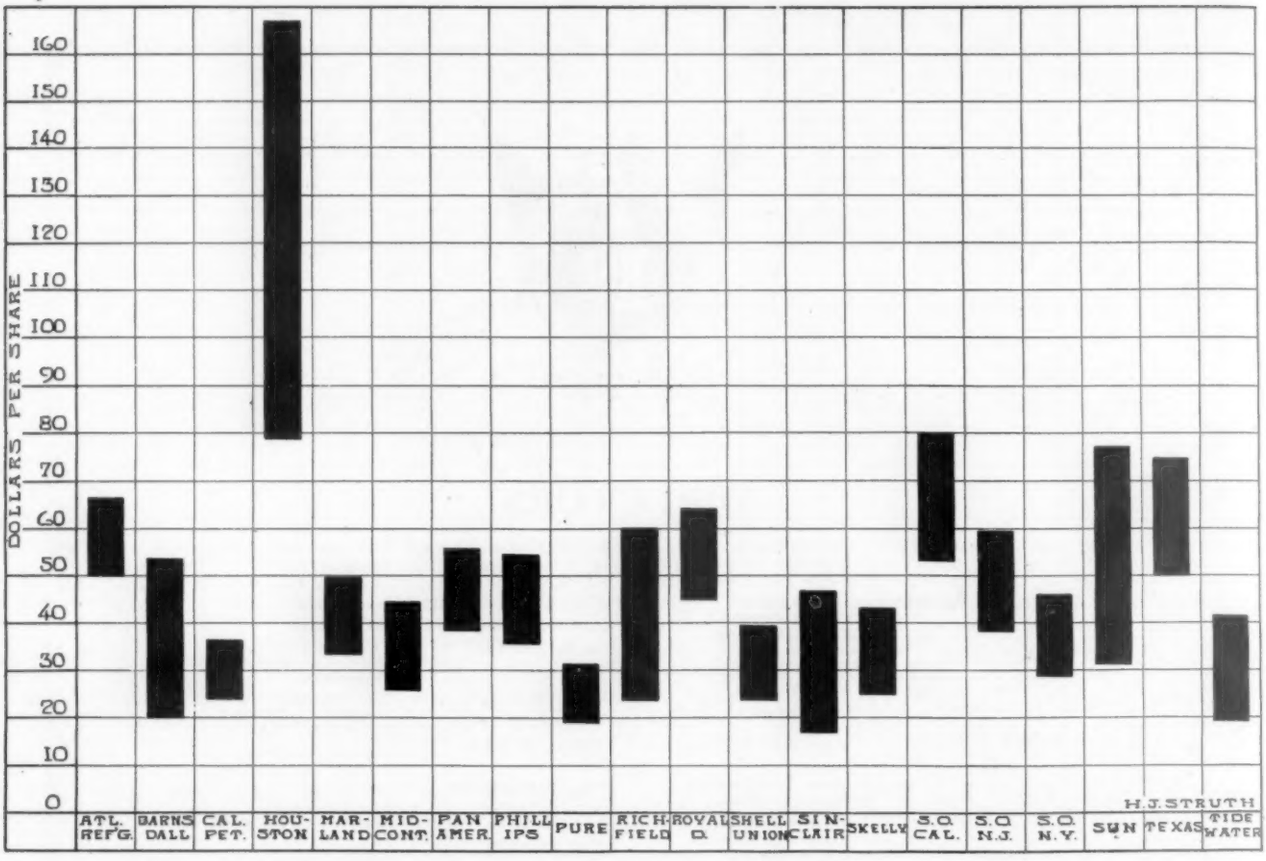
COMBINED RESOURCES MORE THAN $35,500,000.00

The First National Bank And Trust Company OF TULSA

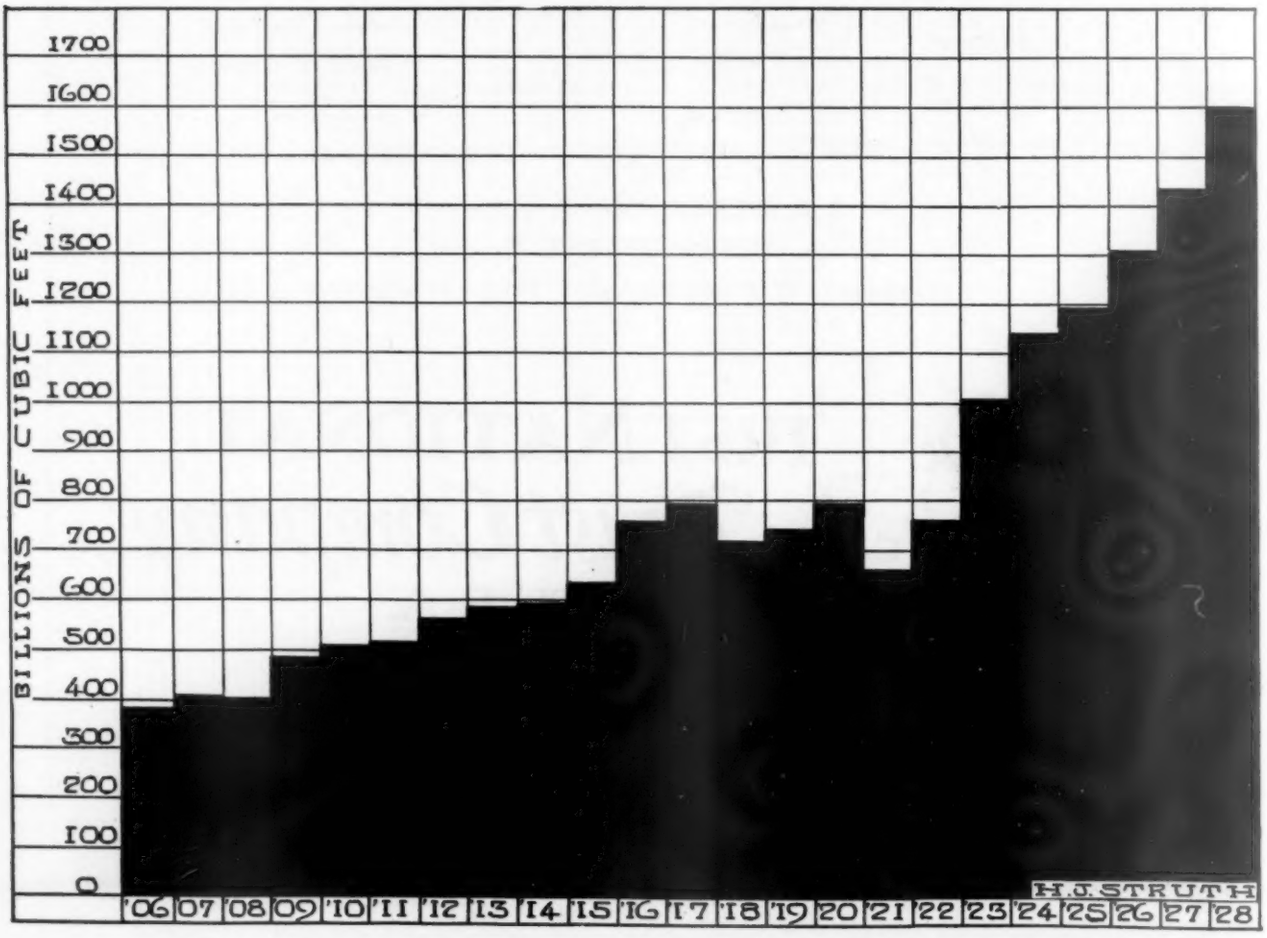
TULSA OKLAHOMA

"TULSA'S OLDEST BANK"

High and Low Quotations on 20 Leading Oil Stocks, 1928

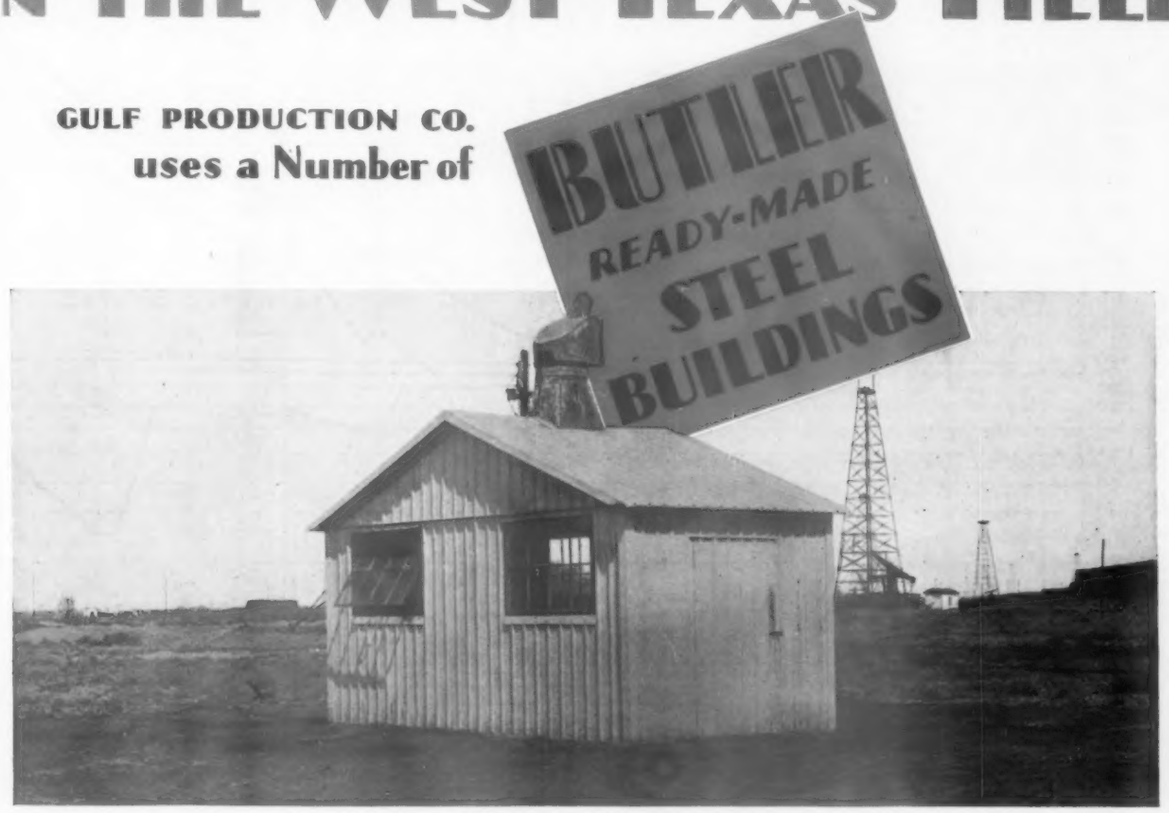


Annual Marketed Production of Natural Gas



IN THE WEST TEXAS FIELD

GULF PRODUCTION CO. uses a Number of



AT Crane, Texas, on Gulf Production Company property—this Butler Ready-Made Steel Building safely and economically houses the suction pumps.

Throughout the Mid-Continent, Wyoming, and Montana this and other types of Butler Ready-Made buildings are serving life sentences as pump houses, boiler houses, compressor houses, warehouses, belt houses, bunk houses, cottages, oil lift plants, oil well supply stores and for most every other building purpose.

In the marketing branch of the oil industry, Butler Ready-Made bulk stations and filling stations dot the roadsides of the entire country.

BUTLER MANUFACTURING COMPANY
KANSAS CITY, MO. BUTLER MINNEAPOLIS, MINN.

THESE RELIABLE DEALERS HANDLE BUTLER READY-MADE STEEL BUILDINGS:

Drane-Humphrey Co., at San Angelo, Big Lake, Pyote and McCamey, Texas, and Roswell, New Mexico.

Drane Tank Co., at Tulsa, Holdenville, Seminole, Hallett and Shawnee, Oklahoma; El Dorado and Madison, Kansas.

Keyes-Butler Tank Co., at Casper and Cody, Wyoming.

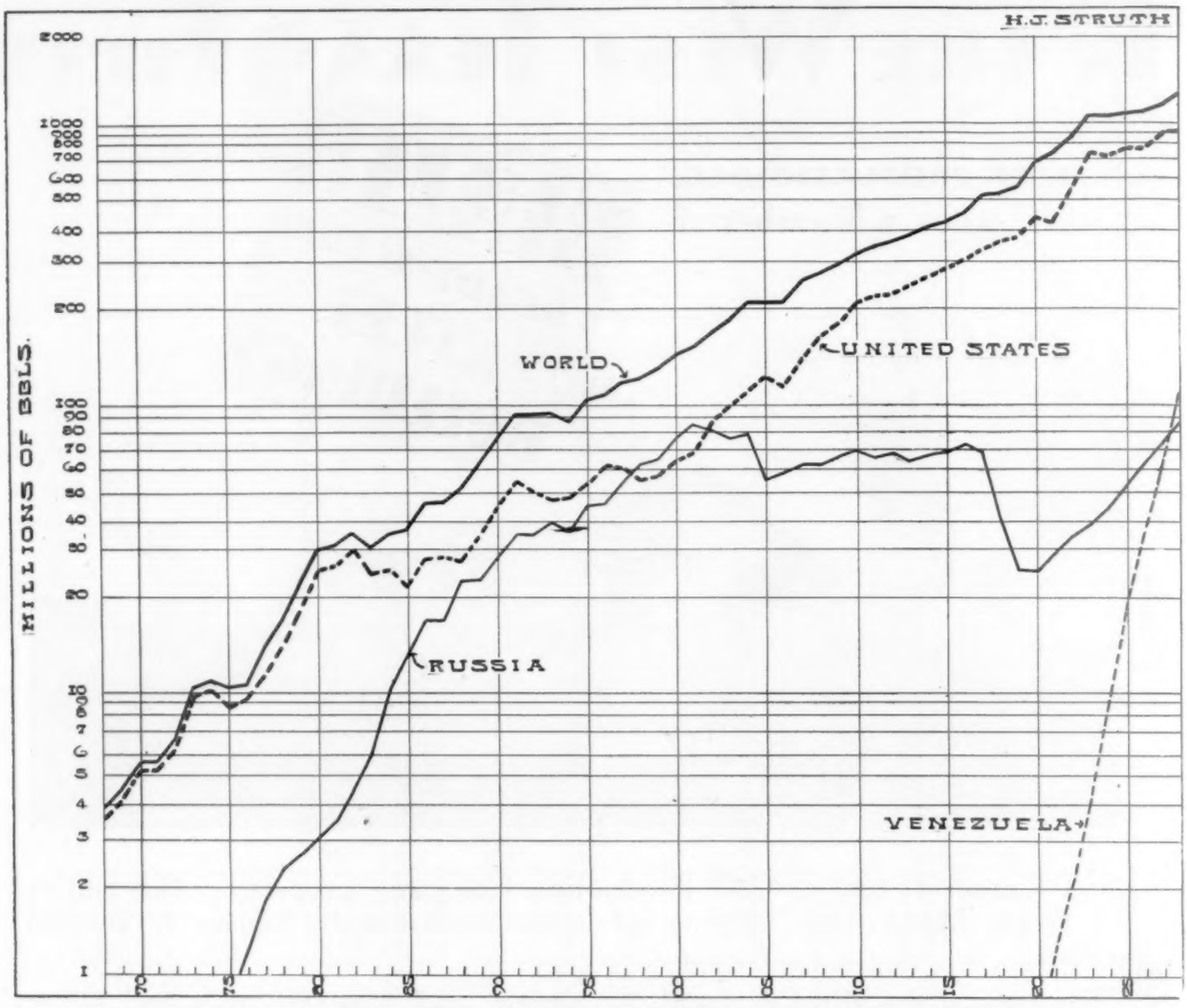
Thomas Moran at Oil City, Shreveport and Georgetown, Louisiana.

Edward J. Baker & Co., 10 S. LaSalle St., Chicago, Illinois.

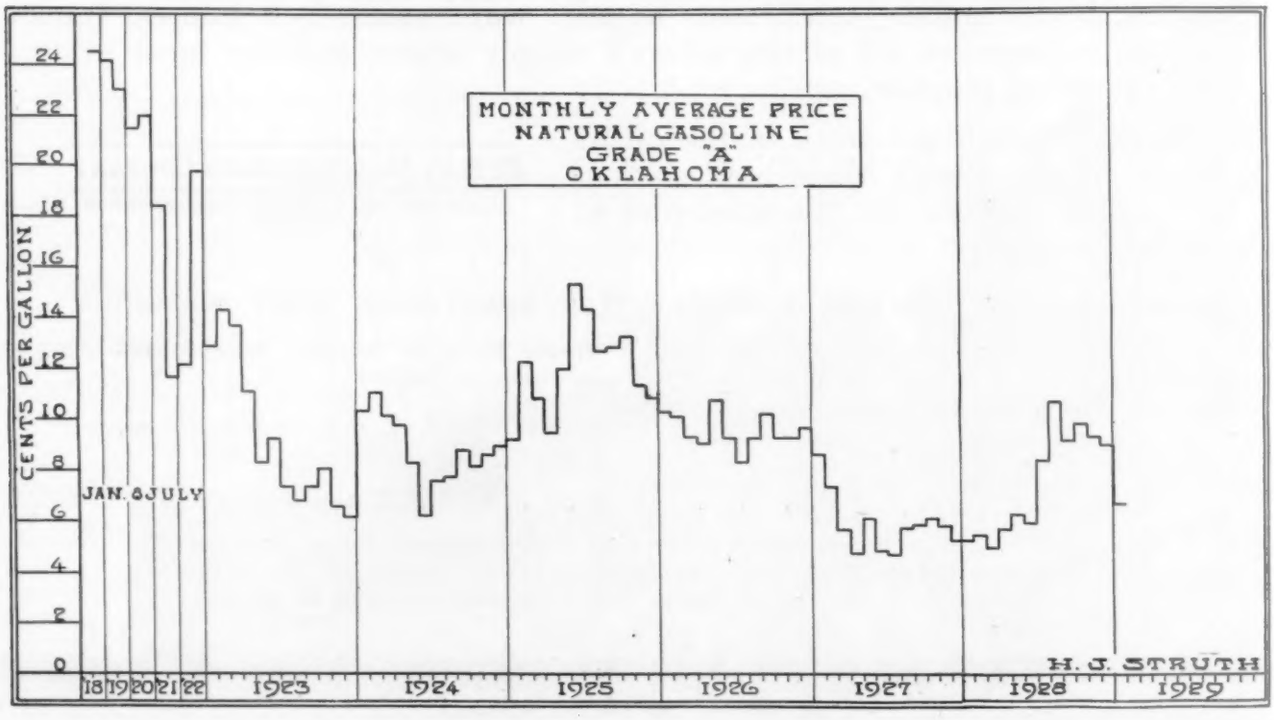
Muskegon Boiler Works, Muskegon, Michigan.

Butler Products include: Ready-Made Steel Buildings, Cans, Funnels, Buckets, Measuring Pumps, Truck Tanks, Underground Tanks, Storage Tanks, Bolted Tanks, Etc. Pipe that can be used as conduit, double well casing or for other purposes.

Annual Production, World, United States and Venezuela—60 Years



Monthly Average Price Natural Gasoline, Grade "A", Oklahoma



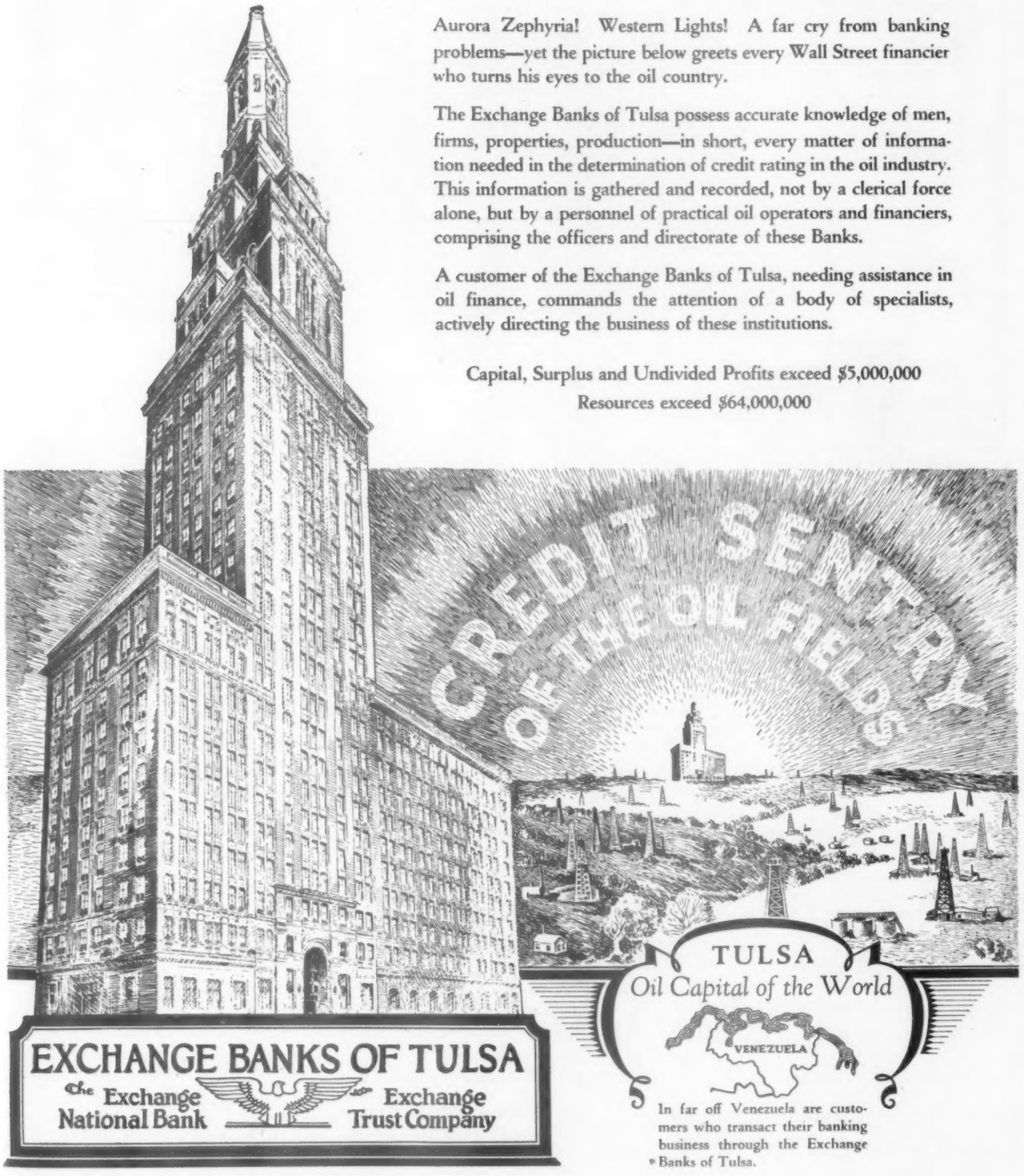
An AURORA ZEPHYRIA *that Wall Street sees in the West*

Aurora Zephyria! Western Lights! A far cry from banking problems—yet the picture below greets every Wall Street financier who turns his eyes to the oil country.

The Exchange Banks of Tulsa possess accurate knowledge of men, firms, properties, production—in short, every matter of information needed in the determination of credit rating in the oil industry. This information is gathered and recorded, not by a clerical force alone, but by a personnel of practical oil operators and financiers, comprising the officers and directorate of these Banks.

A customer of the Exchange Banks of Tulsa, needing assistance in oil finance, commands the attention of a body of specialists, actively directing the business of these institutions.

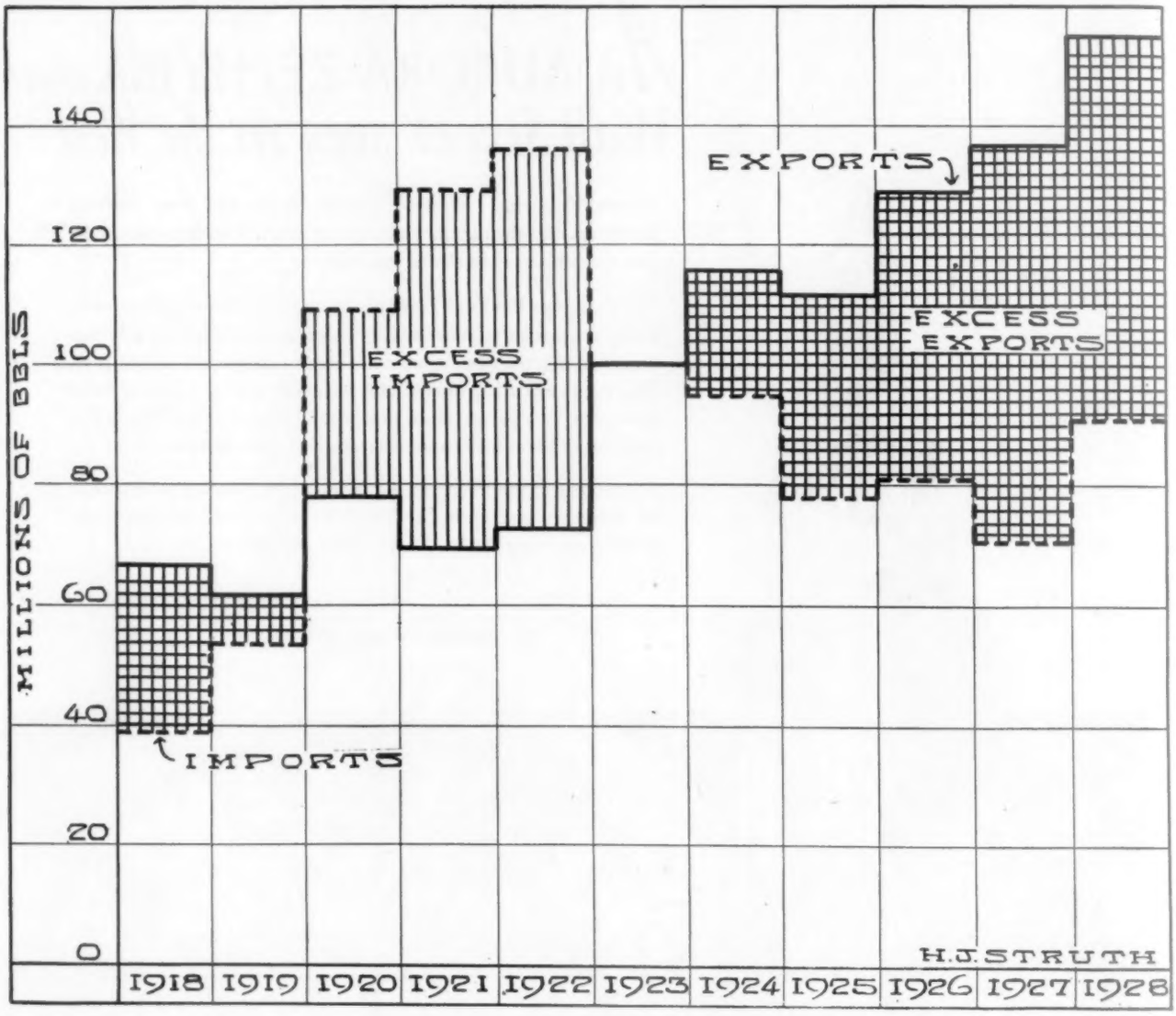
Capital, Surplus and Undivided Profits exceed $5,000,000
Resources exceed $64,000,000



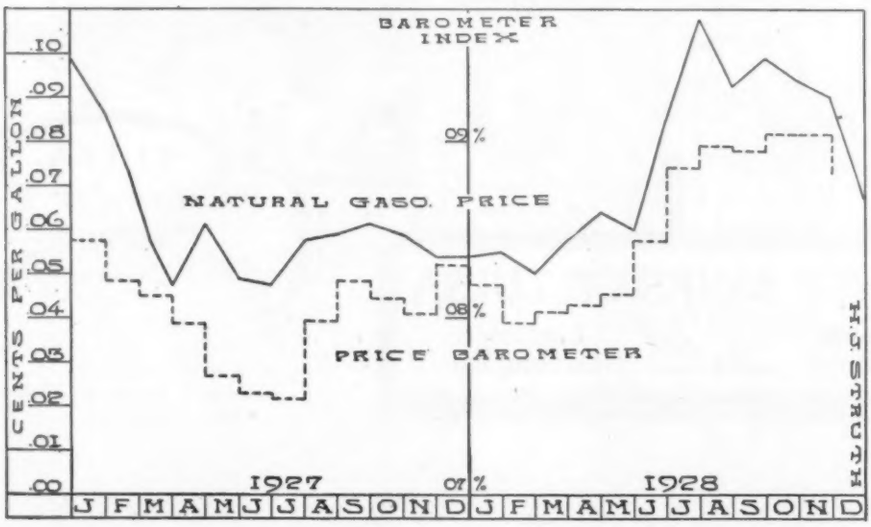
In far off Venezuela are customers who transact their banking business through the Exchange Banks of Tulsa.

EXCHANGE BANKS OF TULSA
The Exchange National Bank — The Exchange Trust Company

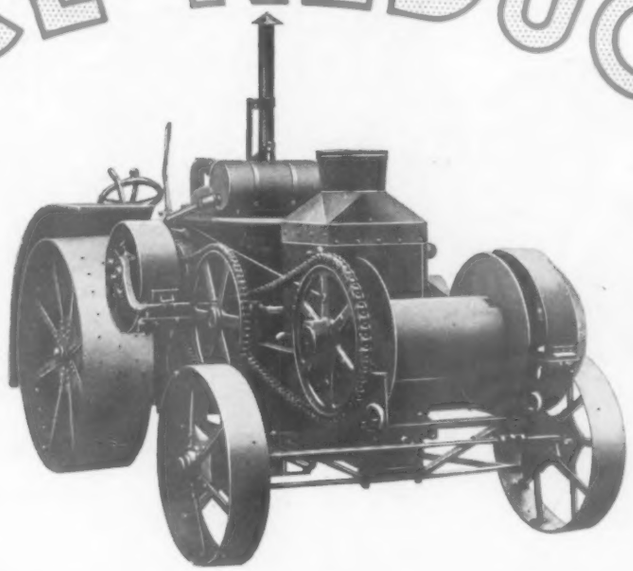
IMPORTS AND EXPORTS, CRUDE AND REFINED OILS



Effect of Supply-Demand Ratio Barometer Upon the Course of Natural Gasoline Market Prices



PRICE REDUCED



to

$2,995

F. O. B. FACTORY

DUE to a sales volume that necessitated three extra factory runs above our regular schedule for the last half of 1928, Advance-Rumely takes pleasure in announcing that the price of the Rumely OilPull Winch Tractor has been reduced to $2,-995.00, this quotation becoming effective February 20, 1929.

RUMELY OILPULL TRACTOR

The First OilPull Winch Tractors Ever Sold Are Still Working

Address all orders and inquiries to

FRED E. COOPER

Special Rumely Representative and Developer of Oil Field Machinery

18 S. MADISON TULSA

Say you saw it in The OIL WEEKLY

1,420,000 *Horsepower!*

OUT to the far corners of the earth the exhausts of Bessemer's million four hundred and twenty thousand horsepower have sounded their "Song of Service". Into the teeth of the four winds they have hurled their challenge to Time, Wear and Abuse.

For thirty years Bessemers have been building a reputation of performance surpassed by none. During these thirty years this vast array of Bessemer horsepower has consistently *proved* its right to leadership—in engineering, in construction and in serviceability.

Get the most out of *your* oil field power equipment dollars by buying Bessemers—proved by a million four hundred and twenty thousand horsepower.

BESSEMER ENGINE COMPANY
York Street ∴ Grove City, Pa.

BESSEMER

Say you saw it in The OIL WEEKLY

World's Production of Crude Petroleum Since 1857, by Years and Countries, in Barrels of 42 Gallons

Year	Rumania	United States	Italy	Canada	Russia	Poland	Japan and Formosa	Germany	India	Dutch East Indies	Peru	Mexico	Argentina	Trinidad	Egypt	Other Countries	Total	Year	Pct. Prod. by U. S.
1857	1,977	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,977	1857	.00
1858	3,560	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,560	1858	.00
1859	4,349	2,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,349	1859	31.5
1860	8,542	500,000	36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	508,578	1860	98.3
1861	17,279	2,113,609	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,130,917	1861	99.1
1862	23,198	3,056,690	29	11,775	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,091,692	1862	98.8
1863	27,943	2,611,309	58	82,814	40,816	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,762,940	1863	94.5
1864	33,013	2,116,109	72	90,000	64,686	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,303,780	1864	90.5
1865	39,017	2,497,700	2,235	110,000	66,542	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,715,524	1865	91.9
1866	42,534	3,597,700	992	175,000	83,052	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,899,278	1866	92.3
1867	50,838	3,347,300	791	190,000	119,917	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,708,846	1867	90.2
1868	55,369	3,646,117	367	200,000	88,327	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,990,180	1868	91.2
1869	58,533	4,215,000	144	220,000	202,308	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,695,985	1869	89.9
1870	83,765	5,260,745	86	250,000	204,618	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,799,214	1870	90.7
1871	90,030	5,205,234	273	269,397	165,129	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,730,063	1871	90.8
1872	91,251	6,293,194	131	308,100	184,391	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,877,267	1872	91.5
1873	104,036	9,893,786	467	365,052	474,379	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10,837,720	1873	91.3
1874	103,177	10,926,945	604	168,807	583,751	149,837	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11,933,121	1874	91.5
1875	108,569	8,787,514	813	220,000	697,364	158,522	4,366	.....	.....	.....	.....	.....	.....	.....	.....	.....	9,977,348	1875	88.1
1876	111,314	9,132,669	2,891	312,000	1,320,528	164,157	7,708	.....	.....	.....	.....	.....	.....	.....	.....	.....	11,051,267	1876	82.6
1877	108,569	13,350,363	2,934	312,000	1,800,720	169,792	9,560	.....	.....	.....	.....	.....	.....	.....	.....	.....	15,753,938	1877	85.4
1878	109,300	15,396,898	4,329	312,000	2,400,960	175,420	17,884	.....	.....	.....	.....	.....	.....	.....	.....	.....	18,416,761	1878	84.7
1879	110,007	19,914,146	2,891	575,000	2,761,104	214,800	23,457	.....	.....	.....	.....	.....	.....	.....	.....	.....	23,601,405	1879	84.3
1880	114,321	26,286,123	2,035	350,000	3,001,200	229,120	25,497	9,310	.....	.....	.....	.....	.....	.....	.....	.....	30,017,606	1880	87.6
1881	121,511	27,661,238	1,237	275,000	3,601,441	286,400	16,751	29,219	.....	.....	.....	.....	.....	.....	.....	.....	31,992,797	1881	86.4
1882	136,610	30,349,897	1,316	275,000	4,537,815	330,076	15,549	58,025	.....	.....	.....	.....	.....	.....	.....	.....	35,704,288	1882	85.0
1883	139,486	23,449,633	1,618	250,000	6,002,401	365,160	20,473	26,708	.....	.....	.....	.....	.....	.....	.....	.....	30,255,479	1883	77.5
1884	210,667	24,218,438	2,855	250,000	10,804,577	408,120	22,923	46,161	.....	.....	.....	.....	.....	.....	.....	.....	35,968,741	1884	67.3
1885	193,411	21,858,785	1,941	250,000	13,924,596	465,400	29,237	41,360	.....	.....	.....	.....	.....	.....	.....	.....	36,764,730	1885	59.4
1886	168,606	28,064,841	1,575	584,061	18,006,407	305,884	37,916	73,864	.....	.....	.....	.....	.....	.....	.....	.....	47,243,154	1886	59.4
1887	181,907	28,283,483	1,496	525,655	18,367,781	343,832	28,645	74,284	.....	.....	.....	.....	.....	.....	.....	.....	47,807,083	1887	59.2
1888	218,576	27,612,025	1,251	695,203	23,048,787	466,537	37,436	84,782	.....	.....	.....	.....	.....	.....	.....	.....	52,164,597	1888	59.9
1889	297,666	35,163,513	1,273	704,690	24,609,407	515,268	52,811	68,217	94,250	.....	.....	.....	.....	.....	.....	.....	61,507,095	1889	57.2
1890	383,227	45,823,572	2,998	795,030	28,691,218	659,012	51,420	108,296	118,065	.....	.....	.....	.....	.....	.....	.....	76,632,838	1890	59.9
1891	488,201	54,292,655	8,305	755,298	34,573,181	630,730	52,917	108,929	190,131	.....	.....	.....	.....	.....	.....	.....	91,100,347	1891	59.6
1892	593,175	50,514,657	18,321	779,753	35,774,504	646,220	68,901	101,404	242,284	.....	.....	.....	.....	.....	.....	.....	88,739,219	1892	56.9
1893	535,655	48,431,066	19,069	798,406	40,456,519	692,669	106,384	99,390	298,969	600,000	.....	.....	.....	.....	.....	.....	92,038,127	1893	52.6
1894	507,255	49,344,516	20,552	829,104	36,375,428	949,146	171,744	122,564	327,218	688,170	.....	.....	.....	.....	.....	.....	89,335,697	1894	55.2
1895	575,200	52,892,276	25,843	726,138	46,140,174	1,452,999	141,310	121,277	371,536	1,215,757	.....	.....	.....	.....	.....	.....	103,662,510	1895	51.0
1896	543,348	60,960,361	18,149	726,822	47,220,633	2,443,080	197,082	145,061	429,979	1,427,132	47,536	.....	.....	.....	.....	.....	114,159,183	1896	53.4
1897	570,886	60,475,516	13,892	709,857	54,399,568	2,226,368	218,559	165,745	545,704	2,551,649	70,831	.....	.....	.....	.....	.....	121,948,575	1897	49.5
1898	776,238	55,364,233	14,489	758,391	61,609,357	2,376,108	265,389	183,427	542,110	2,964,035	70,905	.....	.....	.....	.....	.....	124,924,682	1898	44.4
1899	1,425,777	57,070,850	16,121	808,570	65,954,968	2,313,047	536,079	192,232	940,971	1,795,961	89,166	.....	.....	.....	.....	.....	131,143,742	1899	43.5
1900	1,628,535	63,620,529	12,102	913,498	75,779,417	2,346,505	866,814	258,297	1,078,264	2,253,355	274,800	.....	.....	.....	.....	.....	149,132,116	1900	42.5
1901	1,678,320	69,389,194	16,150	756,679	85,168,556	3,231,544	1,110,790	313,630	1,430,716	4,013,710	274,800	10,345	.....	.....	.....	20,000	167,434,434	1901	41.4
1902	2,059,935	88,766,916	18,933	530,624	80,540,044	4,142,159	1,193,038	353,674	1,617,363	2,430,465	286,725	40,200	.....	.....	.....	26,000	182,006,076	1902	48.8
1903	2,763,117	100,461,337	17,876	486,637	75,591,256	5,234,475	1,209,371	445,818	2,510,259	5,770,056	278,092	75,375	.....	.....	.....	36,000	194,879,669	1903	51.5
1904	3,599,026	117,080,960	25,476	552,575	78,536,655	5,947,383	1,419,473	637,431	3,385,468	6,508,485	345,834	125,625	.....	.....	.....	40,000	218,204,391	1904	53.7
1905	4,420,987	134,717,580	44,027	634,095	54,960,270	5,765,317	1,472,804	560,963	4,137,098	7,849,896	447,880	251,250	.....	.....	.....	30,000	215,292,167	1905	62.6
1906	6,378,184	126,493,936	53,577	569,753	58,897,311	5,467,967	1,710,768	578,610	4,015,803	8,180,657	536,294	502,500	.....	.....	.....	30,000	213,415,360	1906	59.2
1907	8,118,207	166,095,335	59,875	788,872	61,850,734	8,455,841	2,001,838	756,631	4,344,162	9,982,597	756,226	1,005,000	101	.....	.....	30,000	264,245,419	1907	63.2
1908	8,252,157	178,527,355	50,966	527,987	62,186,447	12,612,295	2,070,145	1,009,278	5,047,038	10,283,357	1,011,180	3,932,900	11,472	169	.....	30,000	285,552,746	1908	62.5
1909	9,327,278	183,170,824	42,388	420,755	65,970,350	14,932,799	1,889,563	1,018,837	6,676,517	11,041,852	1,316,118	2,713,500	18,431	57,143	.....	20,000	298,616,405	1909	61.3
1910	9,723,806	209,557,248	50,830	315,895	70,336,574	12,673,688	1,930,661	1,032,522	6,137,990	11,030,620	1,330,105	3,634,080	20,753	142,857	.....	20,000	327,937,629	1910	64.0
1911	11,107,450	220,449,391	74,709	291,096	66,183,691	10,519,270	1,658,903	1,017,045	6,451,203	12,172,949	1,368,274	12,552,798	13,119	285,307	9,150	20,000	344,174,355	1911	64.0
1912	12,976,232	222,935,044	53,778	243,336	68,019,208	8,535,174	1,671,405	1,031,050	7,116,672	10,845,624	1,751,143	16,558,215	47,007	436,805	205,905	20,000	352,446,598	1912	63.9
1913	13,554,768	248,446,230	47,198	228,080	62,834,356	7,818,130	1,942,009	995,764	7,930,149	11,172,294	2,133,261	25,696,291	130,618	503,616	94,635	20,000	383,547,399	1913	64.7
1914	12,826,579	265,762,535	39,849	214,805	67,020,522	5,033,350	2,738,378	995,764	7,409,792	11,834,802	1,917,802	26,235,403	275,500	643,533	777,038	20,000	403,745,342	1914	65.8
1915	12,029,913	281,104,104	43,898	215,464	68,548,062	4,158,899	3,118,464	995,764	8,202,674	12,386,800	2,487,251	32,910,508	516,120	750,000	262,208	10,000	427,740,129	1915	65.7
1916	10,298,208	300,767,158	50,585	198,123	72,801,110	6,461,706	2,997,178	995,764	8,491,137	13,174,399	2,550,645	40,545,712	796,920	928,581	411,000	25,000	461,493,226	1916	65.2
1917	2,681,870	335,315,601	50,334	205,332	69,000,000	5,965,447	2,898,654	995,764	8,078,843	12,928,955	2,533,417	55,292,770	1,144,737	1,599,455	1,008,750	7,004,973	506,702,902	1917	66.2
1918	8,730,235	355,927,716	35,953	304,741	40,456,182	5,591,620	2,449,069	711,260	8,000,000	13,284,936	2,536,102	63,828,327	1,321,315	2,082,068	2,079,750	7,390,080	514,729,354	1918	69.1
1919	6,614,000	377,719,000	35,000	241,000	25,495,000	6,054,000	2,175,000	234,000	8,735,000	15,428,000	2,616,000	87,073,000	1,183,000	1,841,000	1,501,000	750,000	544,885,000	1919	72.0
1920	7,435,344	443,402,000	34,180	196,937	25,429,600	5,606,116	2,139,777	212,046	7,500,000	17,529,210	2,816,649	163,540,000	1,665,989	2,083,027	1,042,000	14,221,125	694,854,000	1920	63.8
1921	8,368,000	427,183,000	34,400	190,338	29,150,000	5,167,000	2,447,000	200,000	8,000,000	16,958,105	3,699,280	193,397,587	1,747,410	2,354,000	1,255,000	19,913,880	765,065,000	1921	61.7
1922	9,843,000	557,531,000	31,000	179,000	32,966,000	.....	2,042,000	319,000	7,700,000	16,720,000	5,314,000	182,278,000	3,018,000	2,445,000	1,188,000	33,235,000	854,809,000	1922	65.2
1923	10,867,000	732,407,000	34,000	170,000	39,156,000	5,373,000	1,789,000	312,000	8,320,000	19,868,000	5,699,000	149,858,000	3,400,000	3,051,000	1,054,000	37,855,000	1,019,213,000	1923	71.3
1924	13,000,000	710,463,600	.....	170,000	44,000,000	5,750,000	1,666,660	33,330	8,000,000	21,000,000	6,000,000	144,000,000	4,000,000	3,333,330	1,000,000	44,045,000	1,009,461,920	1924	70.3
1925	16,646,000	763,743,000	45,000	318,000	52,448,000	5,960,000	2,000,000	411,000	8,000,000	21,422,000	9,164,000	115,515,000	5,818,000	4,654,000	1,226,000	60,196,000	1,067,566,000	1925	71.5
1926	23,500,000	766,504,000	45,000	350,000	62,000,000	5,600,000	1,820,000	600,000	8,000,000	21,700,000	11,000,000	90,700,000	6,500,000	5,500,000	1,250,000	83,863,000	1,096,690,000	1926	69.9
1927	26,100,000	901,129,000	60,000	500,000	72,400,000	5,800,000	1,700,000	700,000	8,200,000	21,400,000	9,800,000	64,121,000	8,700,000	5,200,000	1,270,000	121,515,000	1,249,395,000	1927	
1928	30,600,000	902,000,000	43,000	618,000	87,800,000	5,530,000	1,800,000	683,000	8,300,000	28,500,000	11,970,000	50,100,000	9,100,000	7,750,000	1,840,000	176,212,000*	1,322,896,000	1928	

*Includes Venezuela, 106,000,000 barrels; Persia, 42,080,000 barrels; Colombia, 19,900,000 barrels; Sarawak, 5,290,000 barrels; France, 520,000 barrels; Ecuador, 1,090,000 barrels; Sakhalin, 509,000 barrels; Czecho Slovakia, 150,000 barrels; Iraq, 650,000 barrels; Others, 23,000 barrels.

Strongly patented *for* Your protection

as well as ours

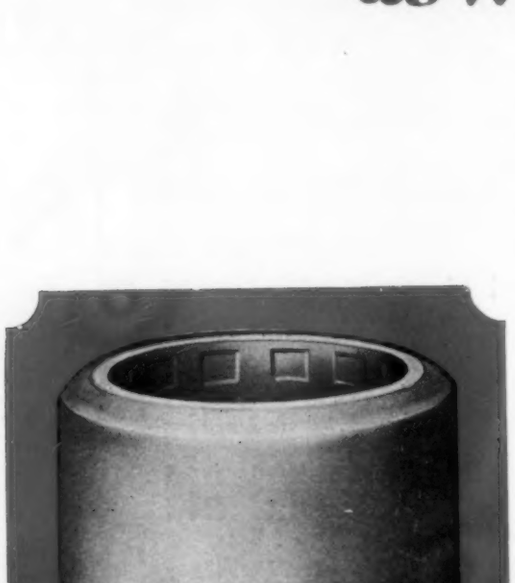
The user of genuine Bettis Protectors is assured of absolute protection under the strong Bettis and Hopkins patents. The original patent application was made approximately four years ago and almost one hundred thousand Bettis Protectors have been installed.

Claim No. 5 of our Bettis Patent reads as follows:

> "In combination with a coupled drill pipe, rings of resilient material gripping the pipe intermediate the couplings; the diameter of said rings when thus positioned being greater than that of said couplings; and said material being adapted for water lubrication and for resisting by its resiliency the embedding of extraneous material therein."

For your protection insist upon Bettis Protectors. They are seamless, hingeless, have no dovetails, and add no metal to the hole.

Ask for new catalog



"Best bet yet!"

97,621
Bettis Protectors now in service

Hopkins Anti-Friction Tool Joints and Collars — now available with These tool joints are made under licenses granted to leading manufacturers by us.

Patterson-Ballagh Corp.

Manufacturers of Bettis Protectors

Insurance Exchange Building, Los Angeles

Texas and Louisiana Distributors: Bettis Sales Co., 617 Public National Bank Bldg., Houston

New York Office: 39 Courtlandt Street.

Carried in Stock at: Los Angeles, Santa Fe Springs, Ventura, Coalinga, Bakersfield, Long Beach, Tulsa, Houston, Wink, New York City

Bettis Protectors - *The genuine anti-friction Rubbers*

Petroleum Marketed in the United States, 1859-1928, in Barrels of 42 Gallons

Figures taken from Petroleum Statistics compiled by the Department of Commerce

Year	Pennsylvania and New York	Ohio	West Virginia	California	Kentucky and Tennessee	Colorado	Indiana	Illinois	Kansas	Texas	Missouri	Oklahoma	Wyoming Louisiana Montana and New Mexico	Louisiana	United States	Total Value	Year
1859	2,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,000	$ 32,000	1859
1860	500,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	500,000	4,800,000	1860
1861	2,113,609	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,113,609	1,035,668	1861
1862	3,056,690	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,056,690	3,209,525	1862
1863	2,611,309	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,611,309	8,225,663	1863
1864	2,116,109	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,116,109	20,896,576	1864
1865	2,497,700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,497,700	16,459,853	1865
1866	3,597,700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,597,700	30,455,398	1866
1867	3,347,300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,347,300	8,066,993	1867
1868	3,646,117	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,646,117	13,217,174	1868
1869	4,215,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,215,000	23,730,450	1869
1870	5,260,745	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,260,745	20,503,754	1870
1871	5,205,234	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,205,234	22,591,180	1871
1872	6,293,194	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,293,194	21,440,503	1872
1873	9,893,786	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9,983,786	18,100,464	1873
1874	10,926,945	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10,926,945	12,647,537	1874
1875	8,787,514	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,787,514	7,368,133	1875
1876	8,968,906	31,763	120,000	12,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9,132,669	22,982,822	1876
1877	13,135,475	29,888	172,000	13,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13,350,363	31,788,566	1877
1878	15,163,462	38,179	180,000	15,227	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15,396,868	18,044,620	1878
1879	19,685,176	29,112	180,000	19,858	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19,914,146	17,210,708	1879
1880	26,027,631	38,940	179,000	40,552	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26,286,123	24,600,638	1880
1881	27,376,509	33,867	151,000	99,862	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27,661,238	25,448,339	1881
1882	30,053,500	39,761	128,000	128,636	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30,349,897	23,631,165	1882
1883	23,128,389	47,632	126,000	142,857	4,755	.....	.....	.....	.....	.....	.....	.....	.....	.....	23,449,663	25,790,252	1883
1884	23,772,209	90,081	90,000	262,000	4,148	.....	.....	.....	.....	.....	.....	.....	.....	.....	24,218,438	20,595,966	1884
1885	20,776,041	661,580	91,000	325,000	5,164	.....	.....	.....	.....	.....	.....	.....	.....	.....	21,858,785	19,198,243	1885
1886	25,798,000	1,782,970	102,000	377,145	4,726	.....	.....	.....	.....	.....	.....	.....	.....	.....	28,064,841	19,996,313	1886
1887	22,356,193	5,022,632	145,000	678,572	4,791	76,295	.....	.....	.....	.....	.....	.....	.....	.....	28,283,483	18,877,094	1887
1888	16,488,668	10,010,868	119,448	690,333	5,096	297,612	.....	.....	.....	.....	.....	.....	.....	.....	27,612,025	17,947,620	1888
1889	21,487,435	12,471,466	544,113	303,220	5,400	316,476	33,375	1,460	500	48	20	.....	.....	.....	35,163,513	26,963,340	1889
1890	28,458,208	16,124,656	492,578	307,360	6,000	368,842	63,496	900	1,200	54	278	.....	.....	.....	45,823,572	35,365,105	1890
1891	33,009,236	17,740,301	2,406,218	323,600	9,000	655,482	136,634	675	1,400	54	35	30	.....	.....	54,292,655	30,529,553	1891
1892	28,422,377	16,362,921	3,810,086	385,049	6,500	824,000	136,634	521	5,000	45	10	80	.....	.....	50,514,657	25,906,463	1892
1893	20,314,513	16,249,769	8,445,412	470,179	3,000	594,390	2,335,293	400	18,000	50	50	10	.....	.....	48,431,066	28,950,326	1893
1894	19,019,990	16,792,154	8,577,624	705,969	1,500	515,746	3,688,666	300	40,000	60	8	130	2,369	.....	49,344,516	35,522,095	1894
1895	19,144,390	19,545,233	8,120,125	1,208,482	1,500	438,232	4,386,132	200	44,430	50	10	37	3,455	.....	52,892,276	57,632,296	1895
1896	20,584,421	23,941,169	10,019,770	1,252,777	1,680	369,450	4,680,732	250	113,571	1,450	43	170	2,878	.....	60,960,361	58,518,709	1896
1897	19,262,066	21,560,515	13,090,045	1,903,411	322	384,934	4,122,356	500	81,098	65,975	19	625	3,650	.....	60,475,516	40,874,072	1897
1898	15,948,464	18,738,708	13,615,101	2,257,207	5,568	444,383	3,730,907	360	71,980	546,070	10	.....	5,475	.....	55,364,233	44,193,359	1898
1899	14,374,512	21,142,108	13,910,630	2,642,095	18,280	390,278	3,848,182	360	69,700	669,013	132	.....	5,560	.....	57,070,850	64,603,904	1899
1900	14,559,127	22,362,730	16,195,675	4,324,484	62,259	317,385	4,874,392	200	74,714	836,039	[1]1,602	6,472	5,450	.....	63,620,529	75,989,313	1900
1901	13,831,996	21,648,083	14,177,126	8,786,330	137,259	460,520	5,757,086	250	179,151	4,393,658	[2]2,335	10,000	5,400	.....	69,389,194	66,417,335	1901
1902	13,183,610	21,014,231	13,513,345	13,984,268	185,331	396,901	7,480,896	200	331,749	18,083,658	[2]757	37,100	6,253	548,617	88,766,916	71,178,910	1902
1903	12,518,134	20,480,286	12,899,395	24,382,372	554,286	483,925	9,186,411	.....	932,214	17,955,572	[2]3,000	138,911	8,960	917,771	100,461,337	94,694,050	1903
1904	12,239,026	18,876,631	12,644,686	29,649,434	998,284	501,763	11,339,124	.....	4,250,779	22,241,413	[2]2,572	1,366,748	11,542	2,958,958	117,080,960	101,175,455	1904
1905	11,554,777	16,346,660	11,578,110	33,427,473	1,217,337	376,238	10,964,247	181,084	[2]12,013,495	28,136,189	[2]3,100	(3)	8,454	8,910,416	134,717,580	34,157,399	1905
1906	11,500,410	14,787,763	10,120,935	33,098,598	1,213,548	327,582	7,673,477	4,397,050	[2]21,718,648	12,567,897	[2]3,500	(3)	[4]7,000	9,077,528	126,493,936	92,444,735	1906
1907	11,211,606	12,207,448	9,095,296	39,748,375	820,844	331,851	5,128,037	24,281,973	2,409,521	12,322,696	[4]4,000	43,524,128	[5]9,339	5,000,221	166,095,335	120,106,749	1907
1908	10,584,453	10,858,797	9,523,176	44,854,737	[6]727,767	379,653	3,283,629	33,686,238	1,801,781	11,206,464	[2]15,246	45,798,765	[2]17,775	5,788,874	178,527,355	129,079,184	1908
1909	10,434,300	10,632,793	10,745,092	55,471,601	[6]639,016	310,861	2,296,086	30,898,339	1,261,764	9,534,467	[2]5,750	47,859,218	[2]20,056	3,059,531	183,170,874	128,328,487	1909
1910	9,848,500	9,916,370	11,753,071	73,010,560	[6]468,774	239,794	2,159,725	33,143,362	1,128,668	8,899,266	[2]3,615	52,028,718	[2]115,430	6,841,395	209,557,248	127,899,688	1910
1911	9,200,673	8,817,112	9,795,464	81,134,391	[6]472,458	226,926	1,695,289	31,317,038	1,278,819	9,526,474	[2]7,995	56,069,637	[2]186,695	10,720,420	220,449,391	134,044,752	1911
1912	8,712,076	[2]8,969,007	12,128,962	[2]87,272,593	[6]848,368	206,052	970,009	28,601,308	1,592,796	11,735,057	(3)	51,427,071	1,572,306	9,263,439	222,935,044	164,213,247	1912
1913	8,865,493	8,781,468	11,567,299	97,788,525	[6]524,568	188,568	956,095	23,893,899	2,375,029	15,009,478	[2]10,843	63,579,384	2,406,522	12,498,828	248,446,230	237,121,388	1913
1914	9,109,309	8,536,352	9,680,033	99,775,327	[6]502,441	222,773	1,335,456	21,919,749	3,103,585	20,068,184	[2]7,792	73,631,724	3,560,375	14,309,433	265,762,535	214,125,215	1914
1915	8,726,483	7,825,326	9,264,798	86,591,535	[6]437,274	208,475	875,758	19,041,695	2,823,487	24,942,701	[2]14,265	97,915,243	4,245,525	18,191,539	281,104,104	179,462,890	1915
1916	8,466,481	7,744,511	8,731,184	90,951,936	1,203,246	197,235	769,036	17,714,235	8,738,077	27,644,605	.....	107,071,715	6,234,137	15,248,138	300,767,158	330,899,868	1916
1917	8,612,885	7,750,540	8,379,285	93,877,549	3,100,356	121,231	759,432	15,776,860	36,536,125	32,413,287	.....	107,507,471	8,978,680	11,392,201	[8]335,315,601	522,635,213	1917
1918	8,216,655	7,285,005	7,866,628	97,531,997	4,376,342	143,286	877,558	13,365,974	45,451,017	38,750,031	.....	103,347,070	12,596,287	16,042,600	[8]355,927,716	703,943,961	1918
1919	9,441,936	8,243,592	9,032,688	101,221,784	5,027,904	241,680	929,780	12,436,000	34,769,100	85,312,000	.....	81,127,900	13,342,320	16,250,000	377,719,000	867,753,379	1919
1920	8,360,400	7,412,000	8,173,050	105,668,000	8,692,600	110,000	932,000	10,772,000	38,500,000	96,000,000	.....	105,725,000	17,407,000	35,649,000	443,402,000	1,360,000,000	1920
1921	8,414,000	7,333,000	8,003,000	114,709,000	8,963,000	108,200	1,163,000	10,044,000	36,232,000	103,322,000	.....	113,978,000	20,656,800	26,523,000	469,639,000	753,000,000	1921
1922	8,505,000	6,775,000	7,015,000	138,907,000	9,603,000	96,500	1,089,000	9,409,000	31,891,000	117,106,545	.....	147,414,000	29,177,265	33,889,480	556,207,725	.....	1922
1923	8,590,000	7,123,000	6,452,000	258,387,119	8,110,140	95,500	1,049,000	8,724,000	29,406,925	125,991,628	.....	155,573,392	48,258,170	22,812,685	725,057,305	.....	1923
1924	8,860,000	6,798,000	5,899,000	230,366,303	7,405,300	413,300	938,000	8,082,000	28,351,001	133,613,985	.....	170,180,463	42,480,700	20,595,136	710,463,430	.....	1924
1925	9,596,000	7,226,000	5,869,000	231,768,982	6,835,700	1,123,000	830,000	7,260,000	34,497,756	150,010,406	.....	167,951,575	36,030,875	21,414,878	759,131,872	.....	1925
1926	10,898,000	7,322,000	5,975,000	224,117,000	6,324,000	2,717,000	793,000	7,766,000	41,427,000	[9]63,933,000	.....	179,272,000	33,830,000	22,803,000	766,504,000	.....	1926
1927	11,768,000	7,593,000	6,023,000	231,196,000	6,779,000	2,831,000	852,000	6,994,000	41,069,000	217,389,000	.....	277,775,000	27,591,000	22,818,000	901,129,000	.....	1927
1928	12,449,000	7,030,000	5,704,000	231,982,000	7,372,000	2,722,000	1,053,000	6,459,000	38,332,000	256,888,000	.....	249,558,000	26,299,000	21,626,000	900,364,000	.....	1928
Total	885,085,050	[8]551,826,978	361,620,398	2,969,549,764	93,315,832	21,777,550	115,734,364	386,171,380	603,198,080	1,673,794,519	.....	2,519,875,787	335,092,703	405,151,090	11,328,189,041	.....	Total

Arkansas 1921	10,190,000
Arkansas 1922	15,869,635
Arkansas 1923	44,488,746
Arkansas 1924	46,480,542
Arkansas 1925	78,717,700
Arkansas 1926	59,229,000
Arkansas 1927	40,005,000
Arkansas 1928	32,295,000
Total	327,449,623

[1]Includes Alaska, Michigan and Missouri production, estimated at 10,300 barrels in 1917 and 7,943 barrels in 1918. [2]Includes production of Michigan. [3]Includes production of Oklahoma. [4]Included with Kansas. [5]Estimated. [6]Includes production of Utah. [7]No. production in Tennessee recorded. [8]Includes small production in Alaska. [9]No production in Missouri; Michigan included in Ohio. [10]Includes production of Alaska, Michigan and New Mexico. [11]Includes production of Alaska and Michigan.

Petroleum Produced in the United States, 1928, by States

(Thousands of Barrels of 42 U. S. Gallons)

Figures taken from "Petroleum Statistics" Department of Commerce, U. S. Bureau of Mines.

State—	January	February	March	April	May	June	July	August	September	October	November	December	The Year
Arkansas	2,732	2,569	2,682	2,402	2,841	3,088	2,809	2,754	2,574	2,688	2,594	2,562	32,295
Califoria	19,028	18,038	19,118	18,281	19,332	19,164	19,754	19,445	18,908	19,431	19,908	21,575	231,982
Colorado	219	229	259	219	223	225	247	240	208	228	217	208	2,722
Illinois	517	510	636	468	572	550	551	572	506	556	507	514	6,459
Indiana—													
Southwestern	70	74	71	75	81	78	81	87	82	88	87	89	963
Northwestern	7	8	7	8	9	9	7	8	7	8	6	6	90
Total, Indiana	77	82	78	83	90	87	88	95	89	96	93	95	1,053
Kansas	3,346	3,245	2,558	3,419	3,424	3,257	3,267	3,180	2,828	3,003	2,826	2,979	38,332
Kentucky	542	558	623	618	652	561	653	660	594	659	608	597	7,325
Louisiana—													
Gulf Coast	397	391	441	420	461	749	774	776	626	555	558	600	6,805
Northern	1,361	1,289	1,333	1,351	1,336	1,221	1,219	1,217	1,134	1,165	1,098	1,097	14,821
Total, Louisiana	1,758	1,680	1,774	1,771	1,797	1,970	1,993	1,993	1,760	1,720	1,656	1,697	21,626
Michigan	31	30	29	37	43	50	56	46	37	73	88	71	595
Montana	370	354	352	321	335	301	293	338	322	289	304	346	3,925
New Mexico	79	66	76	73	73	65	89	84	67	90	90	107	959
New York	187	182	198	194	213	227	202	223	214	236	246	251	2,573
Ohio—													
Central and Eastern	443	439	477	456	494	473	464	474	417	468	420	418	5,443
Northwestern	117	124	138	130	154	150	152	137	123	134	111	117	1,587
Total, Ohio	560	563	615	586	648	663	616	611	540	602	531	535	7,030
Oklahoma	20,956	19,017	20,043	18,731	19,665	19,045	19,142	21,420	22,775	23,926	21,993	22,772	249,558
Pennsylvania	762	770	734	786	867	827	827	860	797	877	824	845	9,876
Tennessee	2	4	5	4	5	2	6	9	4	2	3	1	47
Texas—													
Gulf Coast	3,229	2,846	3,202	3,146	3,537	3,200	3,311	3,286	3,144	3,402	3,220	3,391	38,914
Rest of State	15,748	14,911	18,607	18,835	18,467	16,975	19,198	19,623	18,778	19,312	18,146	18,830	217,974
Total, Texas	18,977	17,757	21,809	21,981	22,004	20,175	22,509	22,909	21,922	22,714	21,366	22,221	256,888
West Virginia	462	460	504	455	525	474	485	493	448	511	448	439	5,704
Wyoming	1,723	1,531	1,853	1,698	1,905	1,835	1,839	1,897	1,811	1,961	1,729	1,633	21,415
United States	72,321	67,652	75,037	72,127	75,218	72,526	75,426	77,829	76,404	79,662	76,031	79,448	900,364

Petroleum Produced in the United States 1928, Classified by Gravity (Approximate)

(Thousands of Barrels of 42 U. S. Gallons)

Figures taken from "Petroleum Statistics" Department of Commerce, U. S. Bureau of Mines.

Light Crude 24° (0.910 and lighter)	64,266	59,669	66,468	64,796	67,770	64,940	67,665	70,090	69,081	71,876	67,999	71,231	806,534
Heavy Crude (heavier than 24° A. P. I.)	8,055	7,983	8,569	7,331	7,448	7,586	7,761	7,739	7,323	7,786	8,032	8,217	93,830
Total	72,321	67,652	75,037	72,127	75,218	72,526	75,426	77,829	76,404	79,662	76,031	79,448	900,364

UNVARIABLE CONTROL OF VARIABLE PRESSURE

Regardless of the pressure of steam, water, oil, gas, air, vapor, etc., the Mason Regulator reduces and maintains an *even pressure at all times.*

—Designed by engineers of over 40 years experience in pressure control problems.

—Made of the highest quality materials in all types and varieties.

—Requires no attention.

Send for illustrated folder and catalog.

MASON REGULATOR CO.,
The Regulator Folks
1190 Adams St.,
BOSTON, MASS.

MASON REGULATOR CO., LTD.
686 Notre Dame St., West,
Montreal, Canada

MASON
Mason Regulators

California's Petroleum Production

FROM THE BEGINNING OF THE INDUSTRY TO DECEMBER 31, 1928, BY FIELDS

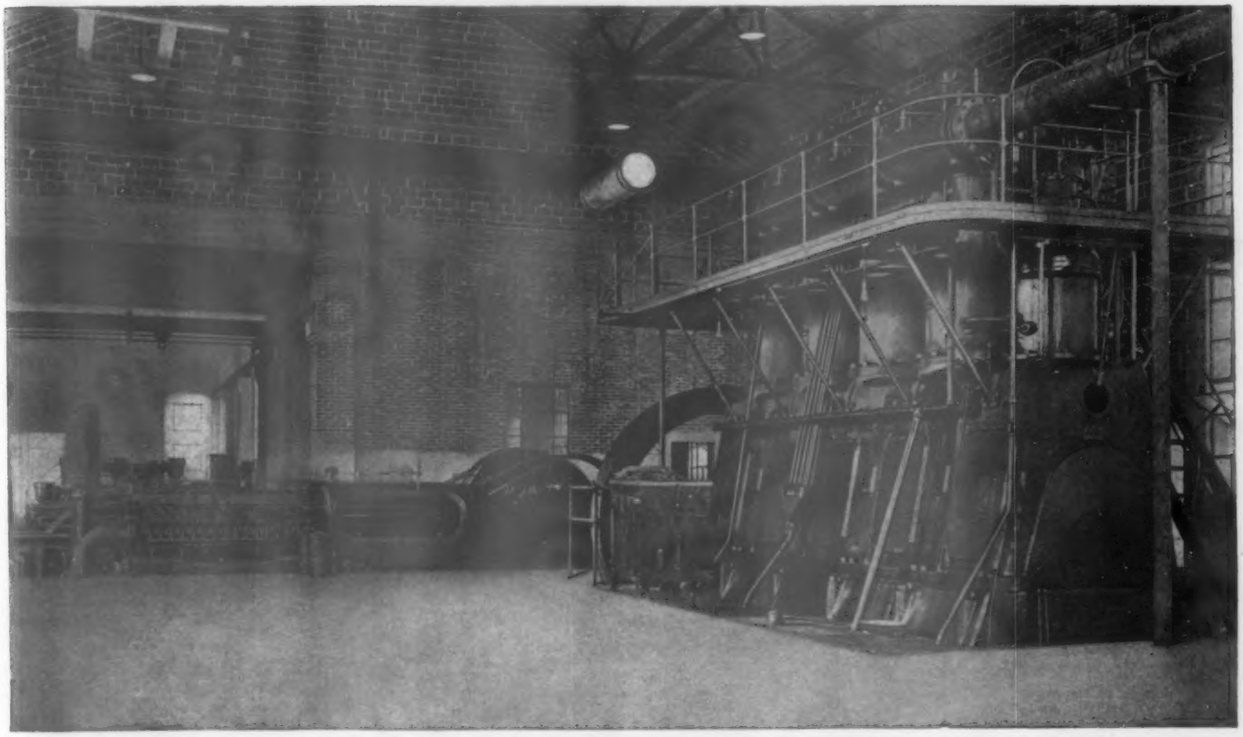
Compiled from data furnished by federal and state bureaus, the American Petroleum Institute, and the Independent Oil Producers Agency

(Barrels of 42 U. S. Gallons)

Year	Kern River	McKittrick	Midway	Sunset	Elk Hills	Coalinga	Lost Hills-Belridge	Santa Maria-Lompoc	Coyote	Montebello	Richfield	Whittier	Santa Fe Springs
Prior	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1876	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1877	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1878	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1879	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1880	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1881	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1882	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1883	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1884	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1885	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1886	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1887	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1888	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1889	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1890	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1891	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1892	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1893	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1894	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1895	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1896	.....	.....	.....	.....	.....	14,119	.....	.....	.....	.....	.....	.....	.....
1897	.....	.....	.....	.....	.....	70,140	.....	.....	.....	.....	.....	.....	.....
1898	.....	10,000	.....	.....	.....	154,000	.....	.....	.....	.....	.....	.....	.....
1899	.....	15,000	.....	.....	.....	439,372	.....	.....	.....	.....	.....	.....	.....
1900	826,775	80,000	.....	12,500	.....	547,960	.....	.....	.....	.....	.....	.....	.....
1901	3,278,840	430,450	4,235	188,600	.....	525,433	.....	.....	.....	.....	.....	.....	.....
1902	8,988,046	619,296	3,048	167,558	.....	571,233	.....	94,188	.....	.....	.....	.....	.....
1903	16,342,099	1,353,206	27,305	352,565	.....	2,138,058	.....	204,890	.....	.....	.....	.....	.....
1904	17,226,240	1,856,225	910	390,425	.....	5,097,853	.....	700,450	.....	.....	.....	.....	.....
1905	15,253,845	1,373,030	18,530	419,212	.....	8,882,125	.....	3,402,800	.....	.....	.....	.....	.....
1906	12,825,166	680,756	11,800	307,550	.....	8,401,105	.....	4,799,411	.....	.....	.....	.....	.....
1907	12,346,014	2,415,840	149,944	704,805	.....	8,996,268	.....	8,249,236	.....	.....	.....	.....	.....
1908	13,803,579	3,076,300	434,578	1,463,510	.....	10,725,795	.....	8,699,350	.....	.....	.....	.....	.....
1909	14,508,242	5,807,360	2,234,455	1,999,701	.....	15,406,619	.....	8,017,455	.....	.....	.....	.....	.....
1910	14,776,435	5,471,613	11,174,207	9,218,904	.....	18,646,570	4,900	7,607,830	.....	.....	.....	.....	.....
1911	14,078,890	5,477,532	21,584,602	5,559,069	.....	18,311,251	168,410	7,465,074	.....	.....	.....	.....	.....
1912	12,446,445	5,094,465	25,948,980	5,590,824	.....	19,546,122	2,680,961	6,801,966	1,359,303	.....	.....	747,439	.....
1913	9,980,940	4,496,842	33,040,129	5,984,651	.....	18,604,626	5,274,553	5,817,711	3,777,359	.....	.....	690,133	.....
1914	7,030,545	3,820,857	37,479,228	12,546,615	.....	15,925,887	4,830,921	4,303,080	6,998,659	.....	.....	636,789	.....
1915	8,034,974	3,552,801	33,311,486	6,006,607	.....	13,548,159	4,318,550	4,536,840	6,610,508	.....	.....	758,163	.....
1916	8,402,525	3,230,644	32,156,818	6,768,658	.....	14,381,493	4,852,431	4,422,410	8,588,699	.....	.....	1,014,667	.....
1917	8,495,610	3,252,544	29,487,812	7,072,333	.....	15,938,543	6,295,329	5,798,070	11,458,471	789,635	.....	1,156,752	.....
1918	7,921,515	3,050,627	27,439,993	6,608,940	.....	16,283,066	5,420,079	7,143,750	12,514,598	6,839,267	.....	1,046,467	.....
1919	7,563,025	2,810,848	26,133,048	5,589,885	281,019	16,385,610	4,554,821	6,030,910	10,240,359	12,100,784	965,408	1,001,048	.....
1920	7,456,515	2,607,240	25,217,420	5,423,781	7,275,809	15,464,198	4,139,767	5,928,060	8,732,435	11,124,585	2,565,346	842,184	.....
1921	6,715,680	2,056,101	24,172,350	4,613,965	18,085,425	12,340,637	3,261,281	5,563,324	7,419,050	9,065,723	8,206,962	735,376	208,216
1922	7,317,288	2,417,434	24,152,026	5,542,816	11,891,030	9,159,368	2,814,824	3,797,903	7,000,373	6,692,024	8,314,528	717,729	11,032,955
1923	6,816,134	2,191,702	27,803,281		8,174,371	5,210,839	1,843,483	3,003,672	2,447,825	4,075,669	6,121,335	645,219	79,781,275
1924	6,765,977	2,092,940	37,559,084		13,675,686	10,084,725	1,527,878	2,864,792	5,716,479	6,214,762	4,443,548	767,805	26,434,535
1925	5,951,217	2,096,736	37,391,003		11,833,366	7,811,886	1,736,960	2,652,427	7,188,569	6,895,949	4,258,973	741,090	19,090,766
1926	4,358,396	1,961,028	33,968,755		12,292,754	7,295,807	1,693,666	1,852,356	6,030,619	6,515,493	5,574,244	746,125	17,446,709
1927	6,098,585	1,855,605	31,670,705		10,073,075	7,154,600	1,515,300	1,999,050	5,146,865	5,498,255	7,884,045	660,505	15,153,575
1928	5,071,285	**	27,314,095		8,107,200	4,655,285	1,526,490	***	4,902,000	4,369,640	6,798,675	**	16,093,930
Totals	270,680,827	75,055,022	642,423,301		101,699,726	308,718,742	58,460,604	121,757,005	116,232,171	80,181,786	55,133,064	12,907,491	185,241,959

Figures for MIDWAY and SUNSET fields are Combined after 1922

(Continued on page 168)



Total annual costs 1 ct. per kw-hr. for two 10-year-old 1000-b.hp. McIntosh & Seymour Diesel Engines

TWO 1000-b.h.p. McIntosh & Seymour Diesel Engines driving 700-kw. generators are ten years old. During the year from June, 1926, to June, 1927, the maximum 15-minute peak on these units was 1500-kw. and the units operated under a load factor of 42 per cent. During this period, 11,005 barrels of fuel oil costing $2.02 per barrel of 320 pounds were used, or .668 pounds per kw hr. On a basis of 19,000 b. t. u. per pound of fuel oil, this involves a heat consumption of 12,700 b. t. u. per kw-hr.

These figures indicate that the total plant operating cost including fixed charges was barely over 1 cent per kw-hr. Such cost from 10-year-old units certainly proves that McIntosh & Seymour Diesel Engine performance does not deteriorate appreciably as the installation grows older.

With their sustained high thermal and mechanical efficiencies, McIntosh & Seymour Diesel Engines give the utmost protection of investment against depreciation. **No McIntosh & Seymour Diesel unit has yet become obsolete.** If you want lower pumping costs at the start and equally attractive figures in the after years, let our engineers explain the possibilities.

Capacities 80- to 10,000 b.h.p.

Annual report covering 5,272,000 kw-hr. generated during this period shows costs exclusive of fixed charges, as follows:

Superintendence	$361.25	
Engine room labor	4,900.90	
Electric labor	93.65	
Fuel	22,249.08	
Water	653.74	
Lubrication	1,621.09	
Production supplies	386.91	
Station expense	311.86	$30,578.48
Maintenance buildings	$379.63	
Maintenance engines	3,057.86	
Maintenance exciters	.75	
Maintenance control apparatus	.60	
Maintenance converting-apparatus	300.49	3,739.33
GRAND TOTAL		$34,317.81
Cost per kw-hr.		$.0065

McINTOSH & SEYMOUR CORPORATION, Auburn, N.Y.

New York City, 149 Broadway — Kansas City, Mo., 1016 Baltimore Ave. — Jacksonville, Fla., 412 Bisbee Bldg. — San Francisco, Cal., 514 Matson Bldg. — Houston, Tex., 2703 Esperson Bldg.

McINTOSH & SEYMOUR DIESEL ENGINES

Say you saw it in The OIL WEEKLY

California's Petroleum Production

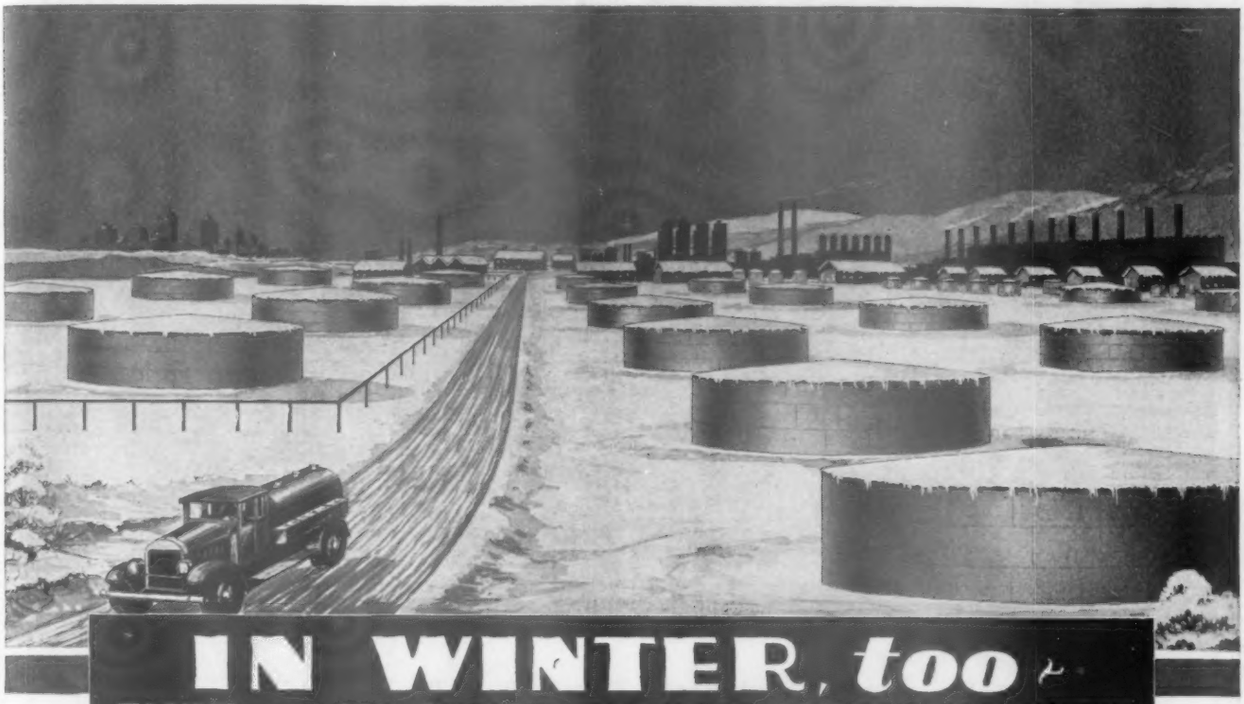
(Continued from page 166)

Year	Huntington Beach	Fullerton	Long Beach	Summerland	Newhall and Ventura Co.	Los Angeles and Salt Lake	Torrance	Wheeler Ridge	Dominguez	Rosecrans	Inglewood	Seal Beach	Miscellaneous	Total
Prior	.....	.....	.....	.....	175,000	.....	.....	.....	.....	.....	.....	.....	.....	175,000
1876	.....	.....	.....	.....	12,000	.....	.....	.....	.....	.....	.....	.....	.....	12,000
1877	.....	.....	.....	.....	13,000	.....	.....	.....	.....	.....	.....	.....	.....	13,000
1878	.....	.....	.....	.....	15,227	.....	.....	.....	.....	.....	.....	.....	.....	15,227
1879	.....	.....	.....	.....	19,858	.....	.....	.....	.....	.....	.....	.....	.....	19,858
1880	.....	.....	.....	.....	40,552	.....	.....	.....	.....	.....	.....	.....	.....	40,552
1881	.....	.....	.....	.....	99,862	.....	.....	.....	.....	.....	.....	.....	.....	99,862
1882	.....	.....	.....	.....	128,636	.....	.....	.....	.....	.....	.....	.....	.....	128,636
1883	.....	.....	.....	.....	142,857	.....	.....	.....	.....	.....	.....	.....	.....	142,857
1884	.....	.....	.....	.....	262,000	.....	.....	.....	.....	.....	.....	.....	.....	262,000
1885	.....	Early	.....	.....	325,000	.....	.....	.....	.....	.....	.....	.....	.....	325,000
1886	.....	production	.....	.....	377,145	.....	.....	.....	.....	.....	.....	.....	.....	377,145
1887	.....	included	.....	.....	678,572	.....	.....	.....	.....	.....	.....	.....	.....	678,572
1888	.....	under	.....	.....	690,333	.....	.....	.....	.....	.....	.....	.....	.....	690,333
1889	.....	Newhall	.....	.....	303,220	.....	.....	.....	.....	.....	.....	.....	.....	303,220
1890	.....	and	.....	.....	307,360	.....	.....	.....	.....	.....	.....	.....	.....	307,360
1891	.....	Ventura	.....	.....	323,600	.....	.....	.....	.....	.....	.....	.....	.....	323,600
1892	.....	County	.....	.....	385,049	.....	.....	.....	.....	.....	.....	.....	.....	385,049
1893	.....	.....	.....	.....	470,179	.....	.....	.....	.....	.....	.....	.....	.....	470,179
1894	.....	.....	.....	1,800	570,469	196,094	.....	.....	.....	.....	.....	.....	14,715	783,078
1895	.....	.....	.....	16,904	474,624	749,695	.....	.....	.....	.....	.....	.....	4,116	1,245,339
1896	.....	.....	.....	39,792	298,866	902,868	.....	.....	.....	.....	.....	.....	2,135	1,257,780
1897	.....	12,000	.....	130,136	631,135	1,064,158	.....	.....	.....	.....	.....	.....	4,000	1,911,569
1898	.....	60,000	.....	132,217	763,871	1,126,000	.....	.....	.....	.....	.....	.....	3,000	2,249,088
1899	.....	217,599	.....	208,370	743,998	1,052,036	.....	.....	.....	.....	.....	.....	1,500	2,677,875
1900	.....	511,550	.....	183,486	628,734	1,280,000	.....	.....	.....	.....	.....	.....	248,945	4,319,950
1901	.....	753,198	.....	203,616	495,943	1,830,000	.....	.....	.....	.....	.....	.....	.....	7,710,315
1902	.....	1,103,793	.....	136,252	646,496	2,027,000	.....	.....	.....	.....	.....	.....	.....	14,356,910
1903	.....	2,305,613	.....	131,125	682,185	793,765	.....	.....	.....	.....	.....	.....	3,670	24,334,481
1904	.....	2,224,550	.....	120,506	650,779	1,241,304	.....	.....	.....	.....	.....	.....	39,392	29,548,634
1905	.....	2,118,312	.....	96,871	476,898	2,226,768	.....	.....	.....	.....	.....	.....	29,650	34,298,041
1906	.....	2,434,512	.....	72,810	404,379	2,675,650	.....	.....	.....	.....	.....	.....	10,000	32,623,229
1907	.....	3,294,206	.....	69,060	435,584	3,372,465	.....	.....	.....	.....	.....	.....	69,090	40,102,512
1908	.....	4,273,314	.....	67,862	498,015	5,138,959	.....	.....	.....	.....	.....	.....	125,475	48,306,737
1909	.....	5,157,252	.....	66,338	516,628	4,350,898	.....	.....	.....	.....	.....	.....	126,775	58,191,723
1910	.....	6,281,221	.....	74,725	652,575	3,729,618	.....	.....	.....	.....	.....	.....	58,970	77,697,568
1911	.....	7,081,165	.....	71,255	661,785	3,223,661	.....	.....	.....	.....	.....	.....	51,350	83,744,044
1912	.....	5,813,037	.....	65,715	859,885	3,073,427	.....	.....	.....	.....	.....	.....	45,870	90,074,439
1913	.....	6,189,561	.....	62,406	1,022,052	2,898,846	.....	.....	.....	.....	.....	.....	27,375	97,867,184
1914	.....	6,495,100	.....	55,743	968,421	2,504,475	.....	.....	.....	.....	.....	.....	27,375	103,623,695
1915	.....	5,661,878	.....	53,000	1,036,305	2,110,133	.....	.....	.....	.....	.....	.....	27,375	89,566,779
1916	.....	5,076,306	.....	56,775	1,122,033	1,721,453	.....	.....	.....	.....	.....	.....	27,450	91,822,362
1917	.....	4,750,582	.....	56,570	1,186,407	1,501,799	.....	.....	.....	.....	.....	.....	27,375	97,267,832
1918	.....	4,403,281	.....	54,613	1,386,518	1,397,781	.....	.....	.....	.....	.....	.....	27,375	101,637,870
1919	.....	4,350,084	.....	53,680	1,792,465	1,341,415	.....	.....	.....	.....	.....	.....	27,375	101,221,784
1920	38,116	5,391,497	.....	54,910	2,122,449	1,311,264	.....	.....	.....	.....	.....	.....	25,610	105,721,186
1921	2,518,812	6,012,839	75,588	54,155	2,375,479	1,344,926	.....	.....	.....	.....	.....	.....	24,035	114,849,924
1922	11,169,383	4,512,974	18,560,595	48,339	3,015,877	1,258,287	190,785	.....	.....	.....	.....	.....	20,338	139,626,876
1923	34,355,642	4,064,661	68,810,361	52,862	3,702,404	1,192,036	3,128,694	128,674	157,698	.....	.....	.....	21,058	263,728,895
1924	17,547,916	4,115,144	60,119,659	53,240	4,049,533	907,418	17,517,908	345,427	6,813,489	623,847	10,405	3,100	21,006†	230,366,303
1925	15,861,954	4,490,298	40,116,683	48,213	9,003,751	630,813	13,298,212	346,364	13,449,723	7,391,456	19,029,724	.....	52,841‡	231,568,982
1926	19,064,814	6,987,489	37,931,964	46,865	16,999,876*	675,950	10,354,905	371,981	7,801,586	6,114,430	17,390,131	587,107	53,963¶	224,117,013
1927	26,344,695	7,008,935	34,541,665	49,475	20,006,350*	630,600	8,338,935	374,735	5,887,645	3,506,115	12,751,555	16,424,930	175,665**	230,751,465
1928	19,642,280	5,743,045	62,467,105	***	18,920,940	***	6,454,065	329,485	4,267,010	2,392,325	10,762,795	12,436,370	9,728,585	231,982,605
Total	146,543,612	128,894,006	322,523,520	2,689,034	104,573,159	61,481,562	59,283,504	1,896,665	38,377,151	20,028,173	59,944,628	29,451,507	11,163,544	3,015,923,070

*Includes Ventura Avenue 17,808,705 barrels; Ventura-Newhall, 2,197,645. **Includes Watsonville, 20,870 barrels; Round Mountain, 8,700 barrels; Rincon, 5,925 barrels; Poso Creek, 40,275 barrels; Potrero, 570 barrels; Newport, 12,485 barrels; Goleta, 86,840 barrels. †Watsonville. ‡Watsonville and Newport. ¶Watsonville and Newport. ***Included in Miscellaneous in 1928.

BITULUMIN

A Permanent Aluminum Paint Finish

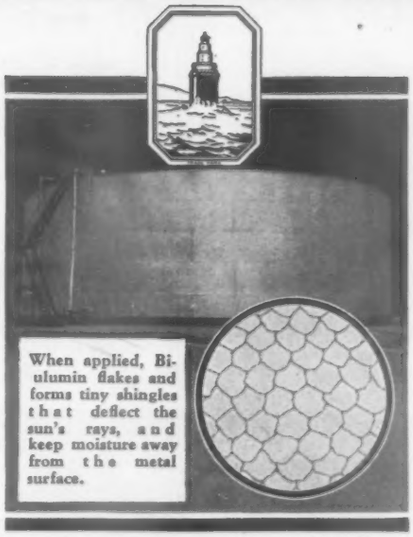


IN WINTER, *too*

TANKS *and* ALL METAL SURFACES, PROTECTED WITH *BITULUMIN*, FULLY REPAY THIS ECONOMICAL ATTENTION

While it is true that evaporation takes its biggest toll during the summer months from tank storage, there is another reason, and it is a most important one, for protecting tank and other metal surfaces during the winter months. For it is during this period that corrosion sets in on unprotected surfaces and those that have been covered with inferior paint films. Costly repair and rebuilding bills for tanks result.

Corrosion, the gigantic "moth" that feasts in winter on exposed metal surfaces, can never affect tanks, tank cars, and other metal surfaces protected with Bitulumin, the aluminum paint that "leafs" perfectly when applied, to form tiny metalic shingles, layer on layer, and presents an impregnable shield to all corrosive elements, as well as the destructful ultra violet rays of the sun.



When applied, Bitulumin flakes and forms tiny shingles that deflect the sun's rays, and keep moisture away from the metal surface.

Act now to avoid paying the annual forfeit to corrosion by having every tank and tank car carefully inspected. For those which need repainting, specify "Bitulumin," the permanent aluminum paint finish. A single coat will prove sufficient, in most cases, for adequate protection.

HILL, HUBBELL & COMPANY

DIVISION GENERAL PAINT CORPORATION

Manufacturers of

Highest Grade Oil Industry Paints and Pipe Line Coatings

Factories—SAN FRANCISCO and TULSA

Offices:

SAN FRANCISCO TULSA NEW YORK LOS ANGELES HOUSTON PORTLAND SEATTLE

Say you saw it in The OIL WEEKLY

Texas Production by Fields by Years, 1896-1928

(Figures in Thousands of Barrels of 42 U. S. Gallons)

NORTH TEXAS

Year	Burkburnett	Electra	Iowa Park K-M-A	Petrolia-Clay County	Baylor County	Montague-Cook Counties	Wichita-Willbarger Counties	Archer-County-Holliday
1896								
1897								
1898								
1899								
1900								
1901								
1902								
1903								
1904	....	....	....	65	....	....	....	....
1905	....	....	....	102	....	....	....	....
1906	....	....	....	111	....	....	....	....
1907	....	....	....	83	....	....	....	....
1908	....	....	....	82	....	....	....	....
1909	....	....	....	114	....	....	....	....
1910	....	....	....	127	....	....	....	....
1911	....	a	....	169	....	....	900	....
1912	....	a	....	197	....	....	4,227	....
1913	a	a	a	345	....	....	8,132	....
1914	a	a	a	551	....	....	8,228	....
1915	a	a	a	349	....	....	5,883	....
1916	a	a	a	303	....	....	7,837	a
1917	a	a	a	282	....	....	9,542	a
1918	a	a	a	297	....	....	12,159	a
1919	20,918	4,461	178	213	....	....	b	58
1920	29,890	3,681	1,311	135	....	....	b	50
1921	18,562	4,206	1,417	132	....	....	b	422
1922	11,487	6,606	937	121	....	....	b	850
1933	9,174	8,856	793	164	....	....	....	5,089
1924	7,109	7,333	1,339	119	....	....	c271	10,869
1925	5,207	6,294	1,300	148	44	111	c3,190	13,578
1926	4,581	5,693	1,692	149	....	912	c4,975	11,722
1927	4,814	5,052	1,211	271	40	5,409	4,924	10,297
1928	3,992	4,512	1,260	85	16	4,254	8,002	7,402
Totals	115,734	56,694	11,438	4,714	100	10,686	78,270	60,337

PANHANDLE DISTRICT

	1924	1925	1926	1927	1928
All Sections	207	1,240	....	....	....
Hutchinson County	....	....	24,000	33,389	13,795
Others	....	....	751	e8,024	10,511
Total	207	1,240	24,751	41,413	24,306

WEST AND WEST CENTRAL TEXAS

Year	Total	Brown County	Callahan County	Coleman County	Crane-Upton Counties	Crockett County
1896	....	....	....	....	....	....
1897	....	....	....	....	....	....
1898	....	....	....	....	....	....
1899	....	....	....	....	....	....
1900	....	....	....	....	....	....
1901	....	....	....	....	....	....
1902	....	....	....	....	....	....
1903	....	....	....	....	....	....
1904	65	....	....	....	....	....
1905	102	....	....	....	....	....
1906	111	....	....	....	....	....
1907	83	....	....	....	....	....
1908	82	....	....	....	....	....
1909	114	....	....	....	....	....
1910	127	....	....	....	....	....
1911	1,069	....	....	....	....	....
1912	4,424	....	....	....	....	....
1913	8,477	....	....	....	....	....
1914	8,779	....	....	....	....	....
1915	6,232	....	....	....	....	....
1916	8,140	....	....	....	....	....
1917	9,824	6	....	....	....	....
1918	12,456	451	....	31	....	....
1919	25,828	213	....	47	....	....
1920	35,067	115	d	84	....	....
1921	24,738	122	d	66	....	....
1922	20,001	225	d	35	....	....
1933	24,076	223	d	48	....	....
1924	27,040	194	91	45	....	....
1925	29,872	760	1,285	60	....	3
1926	29,724	1,628	1,468	90	1,996	d
1927	32,018	9,093	1,628	472	30,566	625
1928	29,550	4,503	1,363	979	25,741	944
Totals	338,000	17,533	5,835	1,957	57,303	1,622

a—Included under Wichita-Wilbarger Counties. b—See Burkburnett and Electra. c—Includes South Vernon. d—Included in West Texas "Others." 3,235; Gray County, 4,091 and Wheeler County, 698.

WEST AND CENTRAL WEST TEXAS—Continued

Year	Desdemona	Eastland County	Howard County	Jack County	Jones County	Mitchell-Scurry Counties	Strawn-Palo Pinto County	Reagan County	Moran-Shackelford County	Stephens County	Throckmorton County	Young County	Others	Total
1896	....											....	....	....
1897	....											....	....	....
1898	....											....	....	....
1899	....											....	....	....
1900	....											....	....	....
1901	....											....	....	....
1902	....											....	....	....
1903	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1904	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1905	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1906	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1907	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1908	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1909	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1910	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1911	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1912	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1913	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1914	....	....	....	....	....	....	....	....	....	....	....	....	....	68
1916	....	....	....	....	....	....	175	....	136	....	....	....	....	311
1917	....	93	....	....	....	....	341	....	68	36	....	....	....	544
1918	....	3,107	....	....	....	....	186	....	55	790	....	....	....	4,620
1919	7,376	22,380	....	....	....	....	101	....	33	10,514	....	....	....	40,664
1920	5,098	10,141	....	....	....	....	512	....	49	23,852	....	135	3	39,989
1921	2,467	5,887	....	....	....	....	262	....	50	31,038	....	2,820	5	42,717
1922	3,489	4,787	....	....	....	34	602	....	309	14,925	....	3,723	10	28,139
1923	2,762	3,764	....	16	....	166	403	....	1,426	10,062	....	2,351	14	21,235
1924	2,573	2,627	....	11	....	469	323	1,079	1,268	7,129	....	598	11	16,418
1925	e	3,711	....	9	....	818	228	8,982	1,085	5,729	44	3,432	12	26,158
1926	702	2,133	34	f	45	288	159	11,243	2,602	4,414	65	2,767	3,265	32,899
1927	e	2,755	1,137	248	843	1,342	446	9,421	3,598	3,289	884	3,395	8,367g	78,109
1928	e	2,775	4,803	540	887	1,106	160	6,856	3,434	2,750	344	3,063	845	140,758
Total	24,467	64,160	5,974	824	1,775	4,223	3,948	37,581	14,290	114,528	1,337	22,284	12,532	472,788

PECOS COUNTY

1927	5,220
1928	22,111
Total	27,331

WINKLER COUNTY

1927	3,046
1928	57,502
Total	60,548

e—Desdemona included with Eastland County. f—Jack County included in West Texas "Others." g—Includes Winkler County, 3,045; Pecos County 5,219; Ector County, 12; and Others, 91.

SOUTHWEST TEXAS

Year	Dale	Laredo Dist.	Luling	Lytton Springs	Rockdale Minerva	Salt Flat	Somerset	Thrall	Misc.	Totals
1915	....	....	....	....	....	....	....	613	181	794
1916	....	....	....	....	....	....	....	433	123	556
1917	....	....	....	....	....	....	....	177	65	242
1918	....	....	....	....	....	....	....	137	158	195
1919	....	....	....	....	....	....	94	8	48	150
1920	....	....	....	....	....	....	245	8	60	313
1921	....	....	....	....	....	....	482	73	51	1,914
1922	....	766	....	....	94	....	955	51	48	606
1923	....	1,592	958	....	230	....	1,335	34	35	4,184
1924	....	1,965	10,210	....	*	....	1,023	25	218	13,441
1925	....	3,488	9,706	2,571	*	....	1,116	17	289	17,187
1926	....	4,346	7,832	1,955	*	....	789	*	316	15,238
1927	*	4,440	6,072	753	*	....	425	*	273	11,992
1928	365	2,791	4,911	457	*	215	266	*	251	9,257
Total	365	19,394	39,689	5,736	324	215	6,730	1,576	2,016	76,069

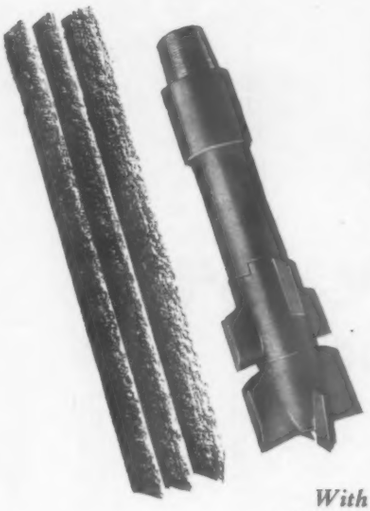
(Continued on page 172)

"If It's An ALCO Tool It's Modern"

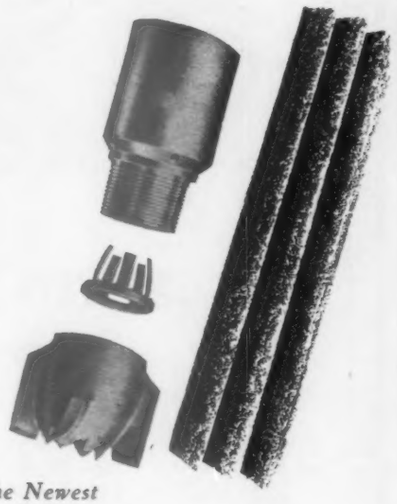
The RECORD BREAKERS

ALCO Drilling Bit

ALCO Core Drill



Everywhere You Go
You Hear Oil Men
Praising The Quality
And Performance of
These Alco
Drilling Tools



With or Without Reamer

—

The Original Hard
Formation Drilling Bit.
U. S. Paten Numbers
1430072 15777875

The Newest and Best

—

The Result of
Four Years of
Successful Core Drill
Manufacturing

Alco Oil Tool Co.

Box A, Compton, California

Mid-Continent Sales Manager—J. C. HILLMAN—Houston, Texas, P. O. Box 4136

ALCO BITS DRILLING & CORING

"If It's An ALCO Tool It's Modern"

Texas Production by Fields by Years, 1896-1928

(Continued from page 170)

EAST CENTRAL TEXAS
(Figures in Thousands of Barrels of 42 U. S. Gallons)

TEXAS GULF COAST
(Figures in Thousands of Barrels of 42 U. S. Gallons)

Year	Mexia-Currie-Richland	Wortham	Corsicana	Powell	Corsicana-Powell	Nigger Creek	Marion County	Total	Batson	Big Creek	Barbers Hill	Boling	Blue Ridge	Damon Mound
1896	....	....	2	....	....	....	....	2	....	....	....	....	....	....
1897	....	....	66	....	....	....	....	66	....	....	....	....	....	....
1898			545	....	....	....	....	545	....	....	....	....	....	....
1899			668	....	....	....	....	668	....	....	....	....	....	....
1900	BOGGY CREEK		830	5	....	....	....	835	....	....	....	....	....	....
1901	1927 35		763	37	....	....	....	800	....	....	....	....	....	....
1902	1928 292		402	100	....	....	....	502	....	....	....	....	....	....
1903			571	47	....	....	....	618	5	....	....	....	....	....
1904	Total 327		374	129	....	....	....	503	10,905	....	....	....	....	....
1905			313	131	....	....	....	444	3,791	....	....	....	....	....
1906			336	676	....	....	....	1,012	2,388	....	....	....	....	....
1907	....	....	276	597	....	....	....	873	2,167	....	....	....	....	....
1908	....	....	211	399	....	....	....	610	1,594	....	....	....	....	....
1909	....	....	181	383	....	....	....	564	1,206	....	....	....	....	....
1910	....	....	137	450	....	....	252	839	1,113	....	....	....	....	....
1911	....	....	129	373	....	....	678	1,180	1,023	....	....	....	....	....
1912	....	....	233	251	....	....	363	847	845	....	....	....	....	....
1913	....	....	159	283	....	....	262	704	741	....	....	....	....	....
1914	....	....	134	282	....	....	181	597	776	....	....	....	....	....
1915	....	....	143	237	....	....	123	503	704	....	....	....	....	....
1916	....	....	135	216	....	....	65	416	745	....	....	....	....	....
1917	....	....	132	197	....	....	58	387	692	....	....	....	....	....
1918	....	....	g	g	362	....	....	362	655	....	20	....	h	487
1919	....	....	g	g	150	....	....	150	502	....	169	....	25	435
1920	....	....	g	g	530	....	....	530	484	....	136	....	173	1,259
1921	4,717	....	g	g	305	....	....	5,022	516	....	50	....	461	1,354
1922	35,120	....	g	g	246	....	....	35,366	430	....	236	....	416	945
1923	20,085	....	g	g	32,361	....	....	52,446	392	17	173	....	332	822
1924	15 615	....	g	g	33,501	....	....	49,116	542	299	72	....	318	545
1925	9,607	16,838	g	g	17,528	....	....	43,973	546	329	47	10	303	419
1926	5,558	3,250	g	g	10,562	1,791	....	21,161	481	523	146	1,121	483	344
1927	4,328	1,306	g	g	6,450	1,565k	....	13,649	532	1,223	68	791	1,122	336
1928	2,942	625	g	g	4,002	406	....	8,304	498	834	323	828	2,302	363
Totals	97,972	22,046	6,740	4,793	105,977	3,762	1,982	243,594	34,273	3,225	1,440	2,750	5,935	7,309

g—Corsicana and Powell combined. h—Blue Ridge included in Coastal "Others." k—Includes Cedar Creek.

TEXAS GULF COAST—Continued
(Thousands of Barrels of 42 U. S. Gallons)

Year	Dayton	Goose Creek	Hull	Humble	Matagorda County	Orange	Pierce Junction	Saratoga	Sour Lake	Spindle Top	South Liberty	West Columbia	Others	Total	Texas Total
1896				....	....				....	....			....	....	2
1897	NASH DOME			....	....	RACCOON BEND			....	....	SUGARLAND		....	....	66
1898	1926 207			....	....	1927 1			....	....	1928 390		....	....	545
1899	1927 394			....	....	1928 98			....	....			....	....	668
1900	1928 491			....	....				....	....	Total 390		....	....	835
1901				....	....	Total 99			....	3,593				3,593	4,393
1902	Total 1092			....	....				44	17,421	....	....	....	17,465	17,967
1903				....	....				8,848	8,601	....	....	....	17,454	18,072
1904				....	152	....	....	739	6,442	3,435	....	....	....	21,673	22,241
1905	60	....	....	18,066	46	....	....	2,922	3,369	1,600	....	....	....	29,854	30,400
1906	192	....	....	3,571	8	....	....	2,289	2,156	1,076	....	....	....	11,680	12,803
1907	120	....	....	2,931	4	....	....	2,199	2,355	1,613	....	....	....	11,389	12,345
1908	40	....	....	3,778	63	....	....	1,635	1,595	1,747	....	....	31	10,483	11,175
1909	18	....	....	3,237	29	....	....	1,184	1,704	1,388	....	...	87	8,853	9,531
1910	10	....	....	2,495	456	....	....	1,024	1,519	1,182	....	....	129	7,928	8,894
1911	4	....	....	2,426	562	....	....	926	1,365	966	....	....	2	7,274	9,523
1912	12	44	....	1,830	300	....	....	1,117	1,175	823	....	....	1	6,147	11,418
1913	13	250	....	1,505	295	18	....	938	1,348	716	....	....	2	5,826	15,007
1914	19	135	....	2,799	164	43	....	890	5,209	580	....	....	2	10,617	20,061
1915	10	119	....	11,062	137	22	....	864	4,115	388	....	....	47	17,468	25,156
1916	9	397	....	10,926	158	18	....	781	4,923	340	....	....	44	18,341	27,764
1917	10	7,300	....	7,390	128	7	....	683	4,763	308	....	....	159	21,440	32,437
1918	7	9,419	330	5,645	100	3	....	791	3,115	502	....	136	40	21,250	38,883
1919	1	7,288	1,476	3,271	53	4	....	616	2,740	459	....	8,129	24	25,192	91,984
1920	1	5,666	4,469	3,692	76	4	....	914	2,073	324	....	10,563	5	29,839	105,738
1921	30	5,647	8,718	3,098	89	705	1,404	937	1,750	321	....	12,573	3	37,656	112,048
1922	39	5,248	6,819	2,553	35	5,492	1,145	662	1,738	295	....	11,632	....	37,685	121,797
1923	75	6,251	7,732	2,449	39	5,312	333	701	2,092	309	....	6,599	....	33,628	135,569
1924	27	4,020	7,287	2,245	73	4,182	163	545	1,650	365	....	4,964	....	27,297	133,519
1925	6	3,661	7,184	1,752	34	5,024	292	587	1,585	429	4,551	4,230	....	30,989	149,419
1926	h	3,281	6,662	1,545	45	3,746	907	455	1,815	13,370	2,117	3,330	714	41,085	164,858
1927	h	2,979	6,220	1,158	h	1,831	3,101	405	1,634	21,584	1,152	3,535	1,451	49,122	226.303
1928	210	2,552	4,167	683	109	1,466	3,980	383	1,235	14,021	1,438	2,946	335*	39,614	252,681
Totals	913	64,257	61,057	100,107	3,155	27,877	11,325	25,187	72,357	97,756	9,258	68,637	3,076	600,842	1,824,097

h—Dayton included with Coastal "Others."
*Includes High Island, 170,450—Fannett, 4,000—Allen Dome, 17,450—Moore's Dome, 45,700—Refugio, 97,800.

For Your Next Tanks,
Specify Toncan Iron

YOU know the cost of repairing or rebuilding storage tanks that have succumbed to the ravages of the weather or sulphurous corrosion. Strike at rust and corrosion before they cost you money. Build your tanks of Toncan Copper Molybdenum Iron.

Toncan Copper Molybdenum Iron is highly refined iron alloyed with copper and molybdenum. It is remarkably resistant to atmospheric and acid corrosion. In line pipe, corrugated sheets, metal buildings and other oil field applications, Toncan Iron outlasts ordinary iron and steel many times. Rivets of Toncan Iron are also available.

If you have any difficulty in securing tank plates of Toncan Copper Molybdenum Iron, get in touch with our nearest office. It will pay you to build your next tanks of Toncan Iron.

REG. U.S. PAT. OFF.
TONCAN
COPPER
Mo-lyb-den-um
IRON

CENTRAL ALLOY STEEL CORPORATION, *Massillon*, OHIO

World's Largest and Most Highly Specialized Alloy Steel Producers

Makers of Agathon Alloy Steels

Cleveland Detroit Chicago New York St. Louis Syracuse
Philadelphia Los Angeles Cincinnati San Francisco Seattle

Export Department: 1519 Pershing Square Building, New York, N. Y.

Louisiana Production by Fields by Years, 1905-1928

Figures taken from Mineral Resources of the United States published by the Department of Commerce

(Thousands of Barrels of 42 U. S. Gallons)

Year	Bellevue	Caddo	Cotton Valley	De Soto	Elm Grove	Haynesville	Homer	NORTHERN Red River (Bull Bayou Critchton)	Urania	Other	Total	Total State	Year
1905	....	....	....	....	....	....	....	....	....	....	....	8,910	1905
1906	....	3	....	....	....	....	....	....	....	....	3	9,076	1906
1907	....	50	....	....	....	....	....	....	....	....	50	4,999	1907
1908	....	499	....	....	....	....	....	....	....	....	499	5,786	1908
1909	....	1,028	....	....	....	....	....	....	....	....	1,028	2,957	1909
1910	....	5,090	....	....	....	....	....	....	....	....	5,090	6,839	1910
1911	....	6,995	....	....	....	....	....	....	....	....	6,995	10,718	1911
1912	....	7,177	....	....	....	....	....	....	....	....	7,177	9,261	1912
1913	....	9,781	....	....	....	....	....	....	....	....	9,781	12,496	1913
1914	....	7,572	....	3,834†	....	....	....	401	....	....	....	14,306	1914
1915	....	6,472	....	1,797	....	....	....	6,802	....	11	15,082	18,192	1915
1916	....	5,464	....	1,657	....	....	....	4,691	....	10	11,822	15,248	1916
1917	....	5,483	....	1,371	....	....	....	1,665	....	43	8,562	11,392	1917
1918	....	11,144	....	1,066	....	....	....	1,046	....	49	13,305	16,043	1918
1919	....	8,700‡	....	1,200‡	....	....	2,000‡	2,900‡	....	79	14,879	17,188	1919
1920	....	6,336	....	....¶	....	....	21,508	5,923¶	....	....	33,767	35,714	1920
1921	....	5,342	....	719	....	3,161	13,030	2,844	....	77	25,173	27,103	1921
1922	1,050	4,498	....	531	160	19,939	5,673	1,778	....	....	33,629	35,376	1922
1923	2,351	4,178	....	429	220	10,496	3,581	1,207	....	7	22,469	24,919	1923
1924	1,749	4,319	1,211	353	217	6,720	2,837	1,231	....	....	18,637	21,124	1924
1925	1,191	4,173	3,520	....¶	244	4,739	2,400	1,526	18	....	17,811	21,374	1925
1926	816	4,598	2,896	....¶	209	3,609	1,916	1,437	2,535	66	18,082	22,538	1926
1927	496	6,086	2,070	1,491	242	2,766	1,823	**	3,650	***145	18,769	24,178	1927
1928	394	4,920	1,803	1,499	208	2,224	1,579	**	2,574	218	15,420	38,556	1928
Totals	8,047	119,918	11,500	15,947	1,500	53,645	56,347	33,451	8,777	705	298,030	401,487	

†—Includes Sabine.
‡—Estimated.
¶—De Soto included with Red River.
§—Included in others.
**—Included under De Soto.
***—Includes Pleasant Hill, 110 barrels, and Sabine Parish, 35 barrels.

Louisiana Gulf Coast (Salt Dome Fields) by Years, 1905-1928

(Thousands of barrel of 42 U. S. Gallons)

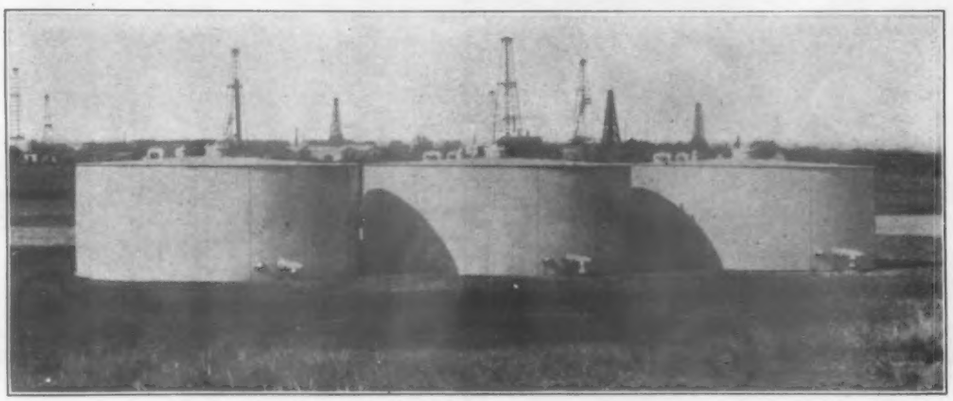
Figures taken from Mineral Resources of the United States published by the Department of Commerce.

Year	Anse La Butte	Bayou Bullion	East Hackberry	Edgerly	Jennings	Lockport	Loreauville	Starks	Sorrento	Sulphur	Sweet Lake	Vinton	Welsh	Other	Total
1905	9	...	...	...	8,891	...	...	...	...	...	...	...	10	...	8,910
1906	25	...	...	...	9,025	...	...	...	...	...	...	...	23	...	9,073
1907	60	...	...	...	4,842	...	...	...	...	...	...	...	47	...	4,949
1908	145	...	...	...	5,111	...	...	...	...	...	...	...	31	...	5,287
1909	37	...	...	...	1,966	...	...	...	...	...	...	...	26	...	1,929
1910	44	...	...	...	1,625	...	...	...	...	...	...	26	54	...	1,749
1911	62	...	...	...	1,180	...	...	...	...	...	...	2,454	27	...	3,723
1912	25	...	...	...	1,105	...	...	...	...	...	...	932	22	...	2,085
1913	6	...	...	...	790	...	...	...	...	...	...	1,888	31	...	2,715
1914	18	...	...	586	412	...	...	...	...	...	...	1,465	18	...	2,499
1915	21	...	...	1,403	435	...	...	...	...	...	...	1,234	...	17	3,110
1916	13	...	...	1,252	517	...	...	...	...	...	...	1,540	...	4	3,426
1917	5	...	...	806	399	...	...	...	...	...	...	1,595	...	25	2,830
1918	3	...	...	512	369	...	...	...	...	...	...	1,839	...	15	2,738
1919	...	...	...	361	347	...	...	...	...	...	...	1,592	...	9	2,309
1920	...	...	...	379	232	...	...	...	...	...	...	1,333	...	3	1,947
1921	47	...	...	250	254	...	...	...	...	...	...	1,379	...	...	1,930
1922	36	...	...	125	191	...	...	...	...	...	...	1,395	...	...	1,747
1923	18	...	...	157	204	...	...	...	...	...	...	2,071	...	...	2,450
1924	12	...	...	166	213	128	...	...	...	...	...	1,968	...	...	2,487
1925*	8	...	...	194	349	477	...	...	...	...	...	2,535	...	...	3,563
1926*	...	...	...	336	419	1,348	...	...	...	...	...	2,344	...	9	4,456
1927*	...	...	...	494	415	2,014	...	...	...	...	...	1,897	...	589	5,409
1928*	16	217	1,176	422	373	1,489	4	186	282	932	659	1,642	30	283	7,716
Total	610	217	1,176	7,443	39,664	5,096	4	186	282	932	659	31,129	319	954	88,037

*Figures taken from weekly estimates as published in The OIL WEEKLY and issued by the American Petroleum Institute.

Columbian Bolted Tanks

A. P. I. SPECIFICATIONS



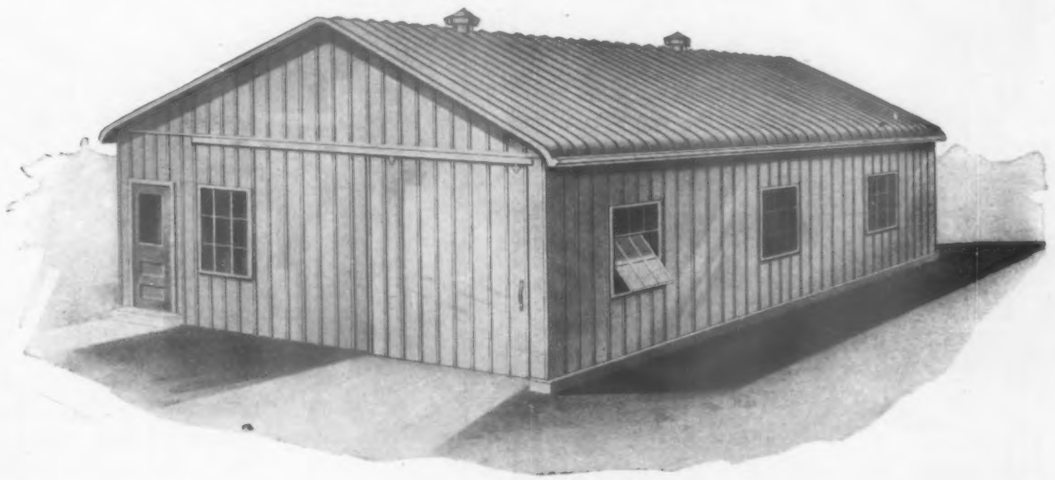
Columbian Bolted Steel Tanks are built in all standard sizes after American Petroleum Institute specifications. They are also furnished after Columbian standard specifications in all sizes up to and including 27,500 barrel capacities.

Columbian Pressure Tanks and Welded field tanks, either factory or field assembled, are likewise available in all popular sizes.

WORKMANSHIP, QUALITY, AND SERVICE UNRIVALED

Stocks at or adjacent to all fields.

Columbian Readyformed Sectional Steel Buildings for offices, warehouses, pump and engine houses, and other industrial uses are available in various dimensions.



COLUMBIAN STEEL TANK COMPANY

EST'D 1894

TANKS FOR THE WORLD

1405-1625 WEST 12TH STREET KANSAS CITY, MISSOURI

Wyoming Production by Districts by Years, 1894-1928

(Thousands of Barrels of 42 U. S. Gallons)
Figures from Mineral Resources published by the Department of Commerce.

Year	Big Muddy	Byron Greybull Torchlight	Elk Basin	Ferris	Grass Creek	Hamilton Dome Worm Springs	Lance Creek	Lander-Dallas Derby Dome	Lost Soldier	Mule Creek	Notches	Osage	Pilot Butte	Poison Spider So. Casper	Rex Lake	Rock Creek	Salt Creek	Teapot	Other	Total
1894-1913	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4,389
1914	....	96	....	....	....	....	....	27	....	....	....	....	....	....	....	....	3,421	....	16	3,560
1915	†	141	....	....	99	....	....	28	....	....	....	....	....	....	....	....	3,971	....	7	4,246
1916	†	140	721	....	1,370	....	....	63‡	....	....	....	....	‡	....	....	....	3,933	....	7	6,234
1917	665	62	1,530	....	2,756	....	....	50‡	....	....	....	....	‡	....	....	....	3,911	....	4	8,978
1918	3,082	45	1,067	....	2,951	....	....	48	....	..	....	....	62	....	....	....	5,337	....	4	12,596
1919	3,104	27	740	¶	2,049	....	461	62	167¶	....	....	....	91	....	....	242	6,225	....	4	13,172
1920	2,083	69	732	¶	1,573	57	353	84	135¶	182	....	16	69	....	....	1,370	10,090	....	18	16,831
1921	1,927	90	681	¶	1,435	67	346	119	524¶	68	....	176	46	....	....	1,681	12,172	....	11	19,333
1922	1,506	70	652	¶	1,784	111	282	149	751¶	168	....	182	38	....	....	1,728	19,248	37	9	26,715
1923	1,527	57	684	¶	1,589	216	363	137	1,551¶	..	61	178	29	†	....	1,429	35,770	1,156	87	44,785
1924	1,272	33	409	42	1,113	239	786	133	1,733	178	39	146	29	229	41	1,181	30,874	1,004	17	39,498
1925*	1,119	47	313	35	1,224	207	316	104	1,708	111	21	138	19	228	16	1,134	21,349	642	89	28,820
1926*	1,882	†	267	†	1,085	†	85	†	1,774	†	†	†	†	†	†	1,032	18,165	445	1,563	26,298
1927*	1,036	†	344	†	975	†	306	†	1,148	†	†	†	†	†	†	1,008	14,605	247	1,318	20,987
1928*	977	18	374	19	858	292	200	86	1,429	122	...	149	15	350	17	921	14,041	6	1,478	21,361
Total	20,180	885	8,514	96	20,861	1,189	3,498	1,090	10,920	829		985	398	807	74	11,726	203,112	3,537	4,630	297,803

1894 All Sections 2
1895 " " 3
1896 " " 3
1897 " " 4
1898 " " 5
1899 " " 6
1900 " " 5
1901 " " 5
1902 " " 6
1903 " " 9
1904 All Sections 12
1905 " " 8
1906 " " ..... †7
1907 " " ..... ‡9
1908 " " 18
1909 " " ..... ‡20
1910 " " ..... ‡115
1911 " " 1572
1912 " " 1572
1913 " " 2406

†Estimated. ‡Includes Utah.

*Taken from weekly estimates of the A. P I. as published in The OIL WEEKLY. †Included under other. ‡Pilot Butte included with Lander-Dallas. ¶Ferris included with Lost Soldier.

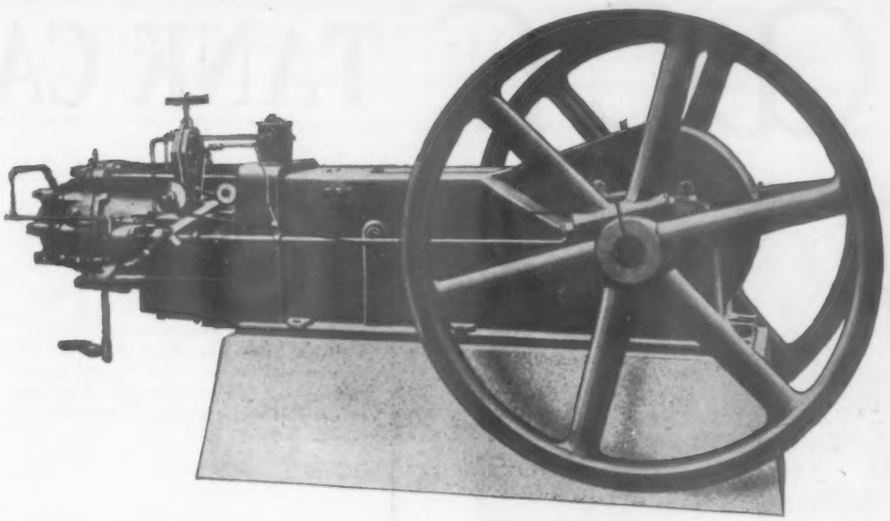
Arkansas Production by Fields by Years, 1921-1928

(Thousands of Barrels of 42 U. S. Gallons)
Figures taken from Mineral Resources published by the Department of Commerce

Year	Champagnolle	El Dorado	Smackover	Irma-Nevada	Stephens	Lisbon	Others	Total
1921	...	10,473	...	...	...	...	...	10,473
1922	...	10,592	2,107	...	13	...	...	12,712
1923	...	5,830	30,048	†	723†	...	...	36,610
1924	...	4,760	40,000	450	818	...	...	46,028
1925*	...	3,198	74,383	514	621	...	...	78,716
1926*	...	2,660	52,771	781	598	2,241	4	59,055
1927*	...	2,206	35,822	781	491	1,419	54	40,773
1928*	3,688	1,917	24,747	595	385	740	35	32,107
Total	3,688	41,636	259,878	3,121	3,658	4,400	93	316,474

†Irma included with Stephens.
*Figures taken from The OIL WEEKLY, as furnished by the A. P. I.

FRANKLIN VALVELESS
OIL AND GAS ENGINES

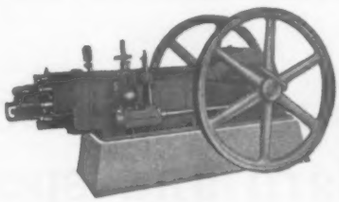


The new Franklin Oil Drilling Engine Type "OF". Ample power and simplicity. Easy to install and start. Low fuel cost.

Franklin's Your Choice

Because it fits your needs. When you load a Franklin Engine on your truck at the station you'll be surprised by the compactness. In fact, the Franklin is so compact you'll kind of wonder whether such a light, handy engine can show all the strength and stamina claimed for the Franklin.

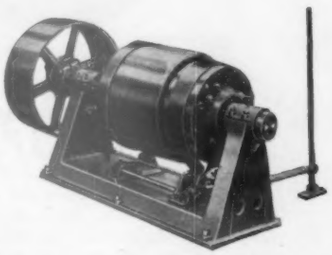
After she's set up and you let 'er shoot, she displays so much power and flexibility you'll get to thinking she must be burning herself out. Then, with several years of work, when you look over your fuel bills and see how low they are; when, upon examination, you find the engine's in good condition, even after years of hard work—there is only one thing to conclude—and that is what we have concluded.



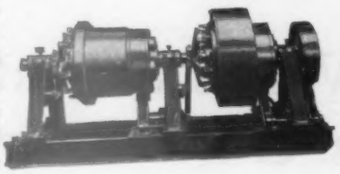
Franklin Oil Pumping Engines in 30, 40 and 50 horsepower. Can be equipped with reverse or one way clutch.

And don't forget the Franklin construction keeps out sand and grit and eliminates valve grinding.

The combination of fine material and expert designing reduce the power expense so much that installation with Franklin's is justifiable even though the machinery you have is not worn out.



The BG Clutch is light and durable—Steel discs and the best grade of friction lining—Pulley clutch 100% Roller Bearings. In reversing the shaft is reversed. Spider, lever and brackets and all under-rigging of steel. Permits use of larger diameter pulley for lower clutch speed. The BG will pull the largest bailer without faltering.



The 2 SD Clutch is on the same principle as the BG. It is heavier. Has two speeds in forward and reverse. Gears may be shifted at any speed and from any one gear to another. Let us send you information on these clutches.

FRANKLIN VALVELESS ENGINE CO.

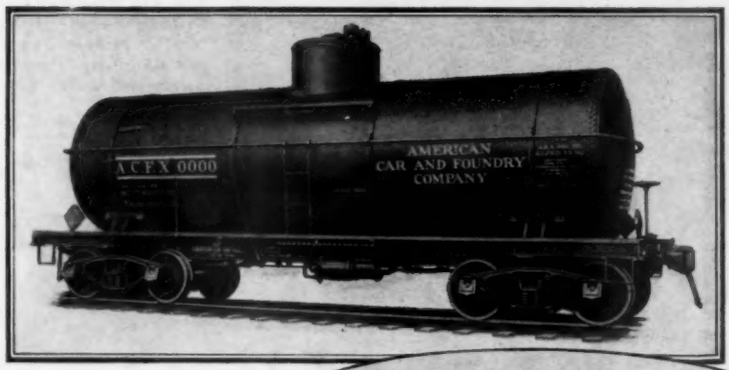
Franklin, Pa.

Distributed by

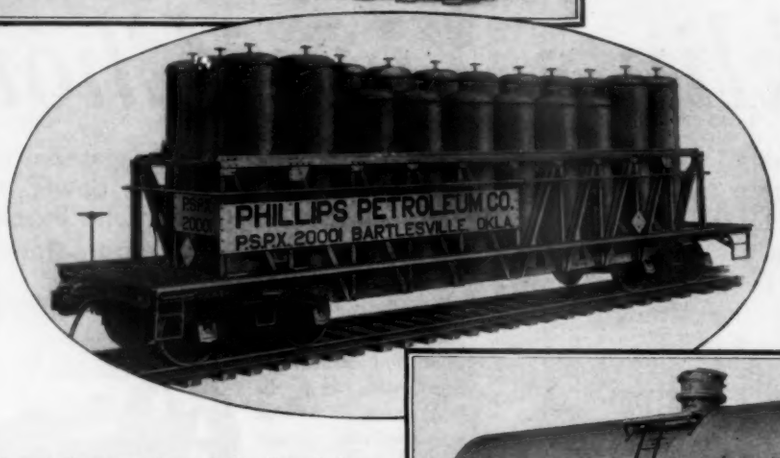
OIL WELL SUPPLY CO.

Branches in All Oil Fields

NEW a.C.f. TANK CARS



At the left, a general service car, built in accordance with I. C. C. Shipping Container Specifications No. 103. This car embodies all of the latest improvements, and the construction throughout is even stronger than that of the earlier types which have proven so successful.



Multi-unit car (center picture) for carrying thirty 1,000-pound capacity Rowland Containers (I. C. C. No. 27) for propane, butane, or anhydrous ammonia, or thirty 1-ton containers for liquid chlorine or sulphur dioxide. Another type of multi-unit car can be furnished, carrying fifteen 1-ton containers, horizontally, for liquid chlorine or sulphur dioxide.

Tank car (bottom picture) for liquefied petroleum gases, conforming to latest requirements of the A. R. A. and I. C. C. Shipping Container Specification No. 105-A-300. This particular car has a nominal water capacity of 11,000 gallons, tank sheets ¾" thick, forge welded, and is equipped with a safety valve set at 225 pounds per square inch, loading and unloading pipes, angles, valves, etc.

Write for information about other recent a. c. f. constructions, standard and special

Always Get a "Car Foundry" Quotation

American Car and Foundry Company

30 CHURCH ST., NEW YORK CHICAGO ST. LOUIS

a.C.f.

IN THE SERVICE OF THE NATION'S RAILWAYS, HIGHWAYS, WATERWAYS, INDUSTRIES

UNITED STATES FIELD STATISTICS FOR 1928

Wells Drilled for Oil and Gas in the United States, 1859-1928

Figures from the United States Mineral Resources, 1924, Part II.

Year	Wells Completed	Dry Holes	Year	Wells Completed	Dry Holes	Year	Wells Completed	Dry Holes
1859-1907	287,922†	54,940†	1914	23,137	4,142	1921	21,937	5,160
1908	16,909	3,214	1915	14,157	2,981	1922	24,689	5,332
1909	18,327	3,404	1916	24,619	4,039	1923	24,438	5,883
1910	14,940	2,422	1917	23,407	4,851	1924	21,888	5,044
1911	13,768	2,363	1918	25,687	5,613	1925	25,623	6,734
1912	17,180	2,855	1919	33,911	7,364	1926	28,995	8,242
1913	25,590	4,282	1920			1927*	22,301	6,319
						1928*	19,964	6,249
						Total...	758,562	157,419

*Oil Weekly Figures. †From papers on the Conservation of Mineral Resources, U. S. Geological Survey Bulletin 394, 1909, pp 30-50.

Recapitulation

State—	Completions 1928	Completions 1927	Producers 1928	Producers 1927	Gas Wells 1928	Gas Wells 1927	Failures 1928	Failures 1927	Initial Production 1928	Initial Production 1927	Annual Production* 1928	Annual Production* 1927
Arkansas	295	330	134	170	32	36	129	124	61,438	16,188	32,108,200	40,776,010
California	668	937	574	830	....	8	94	99	656,592	522,328	231,982,605	230,751,465
Eastern States	6,852	7,667	3,979	4,944	1,542	1,492	1,331	1,231	104,743	85,809	40,316,700	40,448,000
Kansas	956	1,128	427	518	87	66	442	544	95,024	91,081	38,246,850	40,173,015
Louisiana	778	841	201	357	227	135	350	349	92,741	114,163	23,137,150	24,203,785
Mountain States	575	500	309	351	45	32	221	117	39,240	140,663	29,667,295	39,134,560
Oklahoma	3,576	4,341	1,872	2,365	450	494	1,254	1,482	1,038,272	1,832,791	243,127,650	271,302,615
Texas	6,264	6,558	3,486	3.861	350	324	2,428	2,373	4,318,320	1,834,223	252,680,750	226,739,420
Total	19,964	22,302	10,982	13,733	2,733	2,587	6,249	6,319	6,406,370	4,637,246	891,267,200	904,528,870

*Based upon A. P. I. daily average production estimates.

Eastern States

Illinois	135	183	75	99	7	9	53	75	1,694	2,414	6,459,000	6,994,000
Indiana	190	245	78	112	38	29	74	104	2,277	4,291	1,053,000	852,000
Florida	..	3	..	..	..	..	..	3	...	.....	.....	.....
Kentucky	1331	1149	864	1149	49	803	418	42	39,108	304	7,325,000	6,719,000
Michigan	139	260	86	220	29	2	24	38	17,842	4,956	595,000	439,000
Mississippi	..	10	..	..	..	..	..	10	...	.....	.....	.....
New York	390	494	370	477	6	10	14	7	1,144	1,829	2,573,000	2,242,000
Ohio	1637	1587	703	820	540	421	394	346	28,654	22,195	7,030,000	7,593,000
Pennsylvania	1863	2418	1534	2034	197	290	132	94	6,804	8,268	9,876,000	9,525,000
Tennessee	58	71	36	53	4	2	18	16	3,426	4,758	47,000	60,000
West Virginia	1021	1247	217	326	612	687	192	234	3,695	4,601	5,704,000	6,023,000
Total	6852	7667	3979	4944	1542	1492	1331	1231	104,743	85,809	40,316,700	40,448,000

Arkansas

	Completions 1928	Completions 1927	Producers 1928	Producers 1927	Gas Wells 1928	Gas Wells 1927	Failures 1928	Failures 1927	Initial Production* 1928	Initial Production* 1927	Annual Production 1928	Annual Production 1927
Ashley County	2	..	..	..	..	..	2	..	...	.....	.....	.....
Bradley County	1	..	..	..	..	..	1	..	...	.....	.....	* *
Calhoun County	2	..	..	..	..	..	2	..	...	.....	.....	.....
Chicot County	3	..	..	..	..	..	3	..	...	.....	.....	.....
Champagnolle	146	..	88	..	14	..	44	..	50,577[240]	.....	3,688,300	.....
Clark County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Cleveland County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Columbia County	2	..	1	..	1	..	..	..	100	.....	.....	.....
Drew County	1	..	..	..	..	..	1	..	...	.....	.....	.....
El Dorado	2	2	1	2	..	..	1	..	30	43	1,917,300	2,206,330
Johnson County	5	..	..	..	5	..	..	..	...[41]	.....	.....	.....
Lincoln County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Lisbon	..	10	..	9	..	..	..	1	...	100	740,350	1,419,555
Nevada County	10	45	9	40	..	2	1	3	480	3,865	594,950	781,190
Ouachita County	3	..	2	..	..	..	1	..	500	.....	.....	.....
Smackover	38	161	31	116	7	25	..	20	9,701[48]	12,040	24,746,700	35,822,570
Stephens	1	2	1	1	..	..	..	1	20	20	385,350	491,795
Urbana-Lawson	..	1	..	..	..	1	..	..	...	.....	.....	* *
Others	..	..	..	..	..	..	..	..	...	.....	35,250	54,390
Wildcats	76	109	1	2	5	8	70	99	30[25]	120	.....	.....
Total	295	330	134	170	32	36	129	124	61,438	16,188	32,108,200	40,776,010

*—Large figures denote oil in barrels, and small ones denote gas in millions of cubic feet.
**—Included among "others."

California

Field—	Completions 1928	Completions 1927	Producers 1928	Producers 1927	Gas Wells 1928	Gas Wells 1927	Failures 1928	Failures 1927	Initial Production 1928	Initial Production 1927	Annual Production 1928	Annual Production 1927
Athens-Rosecrans	13	13	12	11	..	1	1	1	6,775	6,326	2,392,325	3,506,115
Baldwin Hills												
Inglewood	6	26	6	25	..	..	..	1	1,255	7,141	10,762,795	12,751,555
Belridge (a)	11	..	11	..	..	..	..	..	955	.....	1,526,490	.....
Brea-Olinda-												
Fullerton (a)	9	62	9	59	..	..	..	3	8,285	24,149	5,743,045	.....
Buena Vista	1	..	1	..	...	..	..	..	200	.....	.....	.....
Cat Canyon	9	8	9	8	..	..	..	..	2,450	2,600	.....	.....
Coalinga	..	..	..	..	..	..	..	..	.....	.....	4,655,285	7,154,600
Dominguez	6	12	6	11	..	1	..	..	505	3,510	4,267,010	5,887,645
East Coyote	2	6	..	4	..	..	2	2	.....	560	4,902,000	5,146,865
Elk Hills	..	5	..	5	..	..	..	..	.....	323	8,107,200	10,073,075
Elwood	3	..	3	..	..	..	..	..	14,800	.....	.....	.....
Fruitvale (a)	4	..	4	..	..	..	..	..	3,790	.....	133,435	.....
Goleta (b)	..	11	..	7	..	..	..	4	.....	2,475	895.150	86,840
Hawthorne	1	..	1	..	..	..	..	..	1,200	.....	.....	.....
Hovey Hills	..	1	..	1	..	..	..	..	.....	250	.....	.....
Huntington Beach	62	174	57	170	..	..	5	4	33,685	79,040	19,642,280	26,344,695
Kern Front	34	80	33	78	..	..	1	2	6,045	11,715	5,071,285	6,098,585
Long Beach	237	55	235	53	..	1	2	1	341,600	70,729	62,467,105	34,541,665
Maricopa Flats	..	1	..	1	..	..	..	..	.....	52	.....	.....
Midway-Sunset	26	65	24	64	..	1	2	..	14,285	10,742	27,314,095	31,670,705
Montebello	..	6	..	6	..	..	..	..	.....	968	4,369,640	5,498,255
Mount Poso	14	5	10	3	..	..	4	2	4,360	1,074	53,975	40,275
Peru District	..	4	..	1	..	1	..	2	.....	55	.....	.....
Potrero	2	..	2	..	..	..	..	..	2,000	.....	107,380	570
Richfield	17	7	14	6	..	..	3	1	5,405	1,740	6,798,675	7,884,045
Rideout Heights	..	2	..	1	..	..	..	1	.....	140	.....	.....
Rincon	32	..	32	..	..	..	..	..	16,980	.....	1,082,735	5,925
Round Mountain	10	1	9	..	..	..	1	1	3,805	.....	44,455	8,700
Santa Fe Springs	26	5	24	5	..	..	2	..	93,375	960	16,093,930	15,153,575
Seal Beach	35	252	25	221	..	..	10	31	24,707	226,709	12,436,370	16,424,930
South Mountain	4	8	4	8	..	..	..	..	340	1,206	.....	.....
Topo Canyon	..	3	..	3	..	..	..	..	.....	81	.....	.....
Torrance	..	10	..	10	..	..	..	..	.....	1,401	6,454,065	8,338,935
Ventura	34	41	34	40	..	1	..	..	66,250	62,958	18,920,940	17,808,705
Wheeler Ridge	4	5	4	5	..	..	..	..	240	480	329,485	374,735
Wildcats	66	62	5	20	..	2	61	40	3,300	1,104	.....	.....
Others	..	7	..	4	..	..	..	3	.....	3,840	7,411,455	15,950,450
Totals	668	937	574	830	..	8	94	99	656,592	522,308	231,982,605	230,751,445

(a) Production included in others in 1927. (b) Includes Elwood production for 1928.

North Louisiana

Bellevue	..	..	..	..	..	..	..	..	...	.....	394,050	496,875
Bienville Parish	3	..	1	..	1	..	1	..	35[2]	.....	.....	* *
Bossier Parish	60	22	3	7	46	12	11	3	200[918]	1,725	.....	.....
Caddo Parish	58	170	38	129	8	35	12	6	2,937[31]	33,477	4,920,150	6,086,795
Catahoula Parish	1	..	..	..	..	..	1	..	...	.....	.....	.....
Claiborne Parish	2	..	2	..	..	..	..	..	23	.....	.....	.....
Cotton Valley	3	6	1	3	2	1	..	2	140[55]	275	1,802,800	2,070,735
De Soto-Red River	13	22	3	16	8	5	2	1	123[35]	789	1,499,550	1,491,645
E. Carroll	3	..	..	..	1	..	2	..	...[51]	.....	.....	.....
Elm Grove	1	2	..	2	1	..	..	..	...[20]	22	208,250	242,150
Grant Parish	2	4	1	4	..	..	1	..	60	685	.....	* *
Haynesville	..	1	..	1	..	..	..	..	...	15	2,223,700	2,766,890
Homer	..	1	..	..	..	..	..	1	...	.....	1,579,000	1,823,165
La Salle Parish	4	25	2	25	..	..	2	..	87	1,685	.....	* *
Madison Parish	11	..	..	..	..	..	1	..	...	.....	.....	.....
Monroe	..	18	..	1	..	17	..	..	...	37	.....	.....
Moorehouse Parish	26	4	1	..	16	4	9	..	22[224]	.....	.....	.....
Natchitoches Parish	1	..	..	..	..	..	1	..	...	.....	.....	.....
Ouachita Parish	39	19	1	3	37	16	1	..	...[243]	45	.....	.....
Pleasant Hill	..	..	..	..	..	..	..	..	...	.....	218,950	110,175
Richland Parish	48	18	2	1	42	17	4	..	54[2847]	.....	.....	.....
Sabine Parish	11	24	5	22	1	2	5	..	330[4]	7,397	.....	35,980
Spring Hill	..	1	..	..	..	1	..	..	...	.....	.....	.....
Union Parish	22	9	1	1	17	8	4	..	128[75]	16	.....	* *
Urania	1	13	1	10	..	..	..	3	50	1,500	2,574,000	3,650,775
Webster Parish	55	20	9	6	36	13	10	1	5,161[441]	370	.....	*
Winn Parish	2	1	..	1	..	..	2	..	...	50	.....	.....
Wildcats	167	271	2	7	11	3	154	261	85	2,210	.....	.....
Total North La.	523	651	73	239	227	134	223	278	9,435[3649]	50,298	15,420,450	18,775,185
South La.	255	190	128	118	..	1	127	71	83,305	63,865	7,716,700	5,428,600
Total Louisiana	778	841	201	357	227	135	350	349	92,741[3649]	114,163	23,137,150	24,203,785

*—Large figures denote oil in barrels, and small ones denote gas in millions of cubic feet.
**—Included among "others."

MURRAY

MID-CONTINENT DISTRIBUTORS

Wilson-Snyder Slush Pumps 14x7x18

The standard slush pump of the Industry for long life and exceptional service under the most difficult conditions.

A *new branch located at Capitol Hill,* Oklahoma City

as usual Murray is on the ground to deliver service. A Murray branch is located near you.

Distributors of

Sphero-Valves
Wickwire Spencer Wire Lines
Fairbanks Valves Dart Unions
Drilling Tools
Fishing Tools Supplies
Pittsburgh Seamless Casing, Line Pipe, Drill Pipe
Lepweld Casing and Line Pipe
U. S. Rock Bit Cones and Side Reamers
Eureka Gas Burners
Spang Jars
Regan Equipment
Ajax Cordage

Murray Tool & Supply COMPANY

General Offices Cleveland, Oklahoma Tel. 39

Oklahoma Branches: Oklahoma City, Pawhuska Tel. 867, Ponca City Tel. 2769, Seminole Tel. 119, Tulsa Tel. 4-0144, Webb City Tel. 54, Weleetka Tel. 121, Yale Tel. 55, Maud Tel. 572, *Texas:* Wink

Louisiana Gulf Coast

	Completions		Producers		Gas Wells		Failures		Initial Production*		Annual Production	
	1928	1927	1928	1927	1928	1927	1928	1927	1928	1927	1928	1927
Anse La Butte	..	..	..	..	..	..	..	..	....	.....	16,900	4,850
B. Bouillon	8	..	5	..	..	..	3	..	8,020	.....	217,600	.....
E. Hackberry	37	2	22	1	..	..	15	1	27,076	1,000	1,176,600	43,000
Edgerly	23	34	15	26	..	1	8	7	962	14,426	422,850	494,600
Jennings	34	39	22	22	..	..	12	17	1,936	3,025	373,900	415,250
Lockport	23	37	18	31	..	..	5	6	7,235	32,430	1,489,450	2,014,450
Loreauville	9	..	1	..	..	..	8	..	15	.....	4,000	16,800
Starks	3	1	2	1	..	..	1	..	5,760	3,500	186,000	207,300
Sorrento	8	..	4	..	..	..	4	..	8,200	.....	282,200	.....
Sulphur	12	..	10	..	..	..	2	..	19,530	.....	932,000	29,500
Sweet Lake	3	1	2	1	..	..	1	..	5,760	1,800	659,300	76,500
Vinton	33	42	23	31	..	..	10	11	1,637	6,801	1,642,500	1,897,500
Welsh	..	..	..	..	..	..	..	..	...	.....	30,300	10,200
Wildcats	62	32	5	4	..	..	57	28	435	883	.....	.....
Others	..	..	..	..	..	..	..	..	...	.....	283,100	218,650
Total	255	190	128	118	...	1	127	71	83,306	63,865	7,716,700	5,428,600

Texas Recapitulation

	Completions		Producers		Gas Wells		Failures		Initial Production*		Annual Production	
	1928	1927	1928	1927	1928	1927	1928	1927	1928	1927	1928	1927
Texas Gulf Coast	755	721	456	434	8	8	291	279	248,666	352,935	39,614,000	49,043,250
Texas Panhandle	343	754	189	635	96	83	58	36	63,315[2598]	219,002[2787]	24,306,150	41,406,645
East Central Texas	6	35	..	24	..	..	6	11	...	3,065	8,304,250	13,651,550
East Texas	93	35	11	6	47	29	36	..	344[173]	5,171	.....	....b
West Texas	1150	701	850	669	13	6	287	26	3,739,490[261]	951,145[123]	120,614,450	52,214,340
West Central Texas	2154	2178	935	1116	135	89	1084	973	112,098[414]	223,033[467]	20,144,250	25,813,390
North Texas	1537	1609	925	904	14	24	598	681	116,713[33]	59,984[287]	29,650,950	32,020,340
Southwest Texas	226	123	120	48	37	59	69	16	37,694[715]	5,734[181]	9,256,900	11,789,220
Miscellaneous Fields												
All sections	..	..	..	..	..	..	..	..	...	.....	.....	800,685
Wildcats—All Sections outside Gulf Coast	..	402	..	25	..	26	..	351	...	14,154[10]	.....	.....
Total	6264	6558	3486	3861	350	324	2428	2373	4,318,320[4254]	1,834,223[3723]	252,680,750	226,739,420

Texas Panhandle

	Completions		Producers		Gas Wells		Failures		Initial Production*		Annual Production	
	1928	1927	1928	1927	1928	1927	1928	1927	1928	1927	1928	1927
Armstrong County	1	1	..	..	..	..	1	1	...	.....	.....	.....
Bailey County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Carson County	20	134	4	110	15	18	1	6	675[471]	37,330[482]	2,472,350	3,235,805
Dalllam County	2	..	..	..	..	..	2	..	..	.....	.....a	.....
Floyd County	2	..	..	..	..	..	2	..	...	.....	.....	.....
Gray County	188	112	131	92	28	10	29	10	54,345[574]	38,622[190]	7,397,700	4,091,835
Hale County	5	..	..	..	..	..	5	..	...	.....	.....	.....
Hansford County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Hartley County	2	1	..	..	1	..	1	1	...[50]	.....	.....	.....
Hemphill County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Hutchinson County	61	445	50	404	8	31	3	10	5,990[296]	132,365[1218]	13,794,950	33,389,205
Lamb County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Moore County	8	..	2	..	5	..	1	..	2,230[54]	.....	.....	.....
Motley County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Oldham County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Potter County	5	1	..	..	5	1	..	..	...[79]	.....[80]	.... a	.... a
Sherman County	1	..	..	..	..	..	1	..	...	.....	.... a	.... a
Swisher County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Wheeler County	39	60	2	29	34	23	3	8	75[110]	10,685[708]	338,600	698,800
Wildcats	2	..	..	..	..	..	2	..	...	.....	.....	.....
Others	..	..	..	..	..	..	..	..	...	.....	302,550	.... b
Total	343	754	189	635	96	83	58	36	63,315[2598]	219,002[2787]	24,306,150	41,406,645

East Central Texas

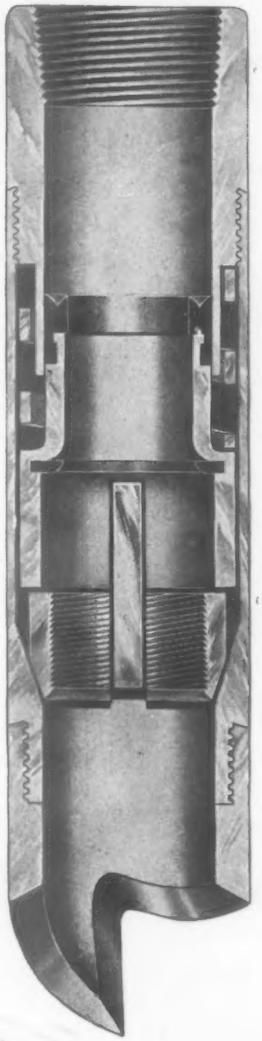
	Completions		Producers		Gas Wells		Failures		Initial Production*		Annual Production	
	1928	1927	1928	1927	1928	1927	1928	1927	1928	1927	1928	1927
Boggy Creek	..	..	..	..	..	..	..	..	...	.....	291,950	.....
Corsicana-Powell	..	14	..	7	..	..	..	7	...	1,055	4,002,150	6,450,425
Currie	..	..	..	..	..	..	..	..	...	.....	189,950	229,715
Limestone County	4	..	..	..	..	..	4	..	...	.....	.....	.....
Mexia	..	13	..	11	..	..	..	2	...	705	2,565,800	3,733,030
Nigger Creek and Cedar Creek	..	8	..	6	..	..	..	2	...	1,305	406,000	1,565,890
Richland	..	..	..	..	..	..	..	..	...	.....	196,650	366,095
Smith County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Wortham	..	..	..	..	..	..	..	..	...	.....	651,750	1,306,395
Wildcats	1	..	..	..	..	..	1	..	...	.....	.....	.....
Total	6	35	..	24	..	..	6	11	...	3,065	8,304,250	13,651,550

The NEW LE BUS circulating and releasing Overshot

RELEASES

"Fish" whenever Desired . . . . . Even After Hard Rotating

Forged steel is used throughout. Left-hand threaded slips which have a full bearing on two keys regardless of their position, can ALWAYS be operated for releasing. A steel packing-off ring with rubber inserts, makes a double seat that cannot be worn out or torn up.



—has *Acme Threads*

—is made of *Forged Steel*

—has fine-wickered *Releasing Slips*

—has full *One-Inch Pitch*

—gives instant, *Positive Release*

—makes *Perfect Joints*

—is guaranteed *by* LE BUS

LE BUS PATENTED OIL WELL TOOLS

LeBUS Automatic Cathead
LeBUS Slipsocket Overshot
LeBUS Eureka Tongs
LeBUS Breakdown Post
LeBUS Bottom Hole Plug
LeBUS Outside Drill Pipe Cutter
LeBUS Inside Pipe or Casing Cutter

AT YOUR DEALERS

Order from Your Nearest Supply House

MANUFACTURED BY THE

LE BUS ROTARY TOOL WORKS

ELECTRA, TEXAS

EXPORT AGENTS: Acme Well & Supply Co., New York

District Agents:

P. F. Murray, Montibello, Calif. California Agent

Paul Reid, Houston, Texas Gulf Coast Agent

Border Foundry Machine Co., Laredo District Agent

West Texas

	Completions		Producers		Gas Wells		Failures		Initial Production*		Annual Production	
	1928	1927	1928	1927	1928	1927	1928	1927	1928	1927	1928	1927
Crane County	30	224	29	221	..	1	1	1	12,265	238,420	c25,741,300	c30,566,340
Crockett County	8	10	8	10	..	..	..	..	2,445	3,760	994,100	625,105
Runnels County	2	..	1	..	..	..	1	..	350	.....	.....	12,000
Fisher County	3	..	2	..	..	..	1	..	380	.....	.....	.....
Howard County	125	96	118	90	2	1	5	5	81,548[3]	8,277[15]	4,802,800	1,137,900
Jones County	37	15	32	13	..	..	5	2	11,029	4,710	886,650	843,490
Mitchell-Scurry Co.s	5	31	4	30	..	..	1	1	360	2,592	1,106,550	1,342,630
Loving County	3	..	3	..	..	..	..	..	160	.....	.....	.....
Montague County	2	..	2	..	..	..	..	..	40	.....	.....	.....
Pecos County	185	92	177	91	1	..	7	1	1,263,436	521,5..	22,11.,.00	5,219,745
Reagan County	31	49	31	44	..	2	..	3	5,910	10,870[8]	6,855,900	9,421,525
Runnels County	2	..	1	..	..	..	1	..	350	.....	.....	.....
Upton County	10	146	8	136	..	..	2	10	920	64,329	 c	 c
Winkler County	437	38	410	34	7	2	20	2	2,358,307[286]	96,645[100]	57,501,650	3,045,605
Wildcats	272	..	25	..	3	..	244	..	12,340[2]	.....	.....	.....
Others	..	..	..	..	..	..	..	..	...	.....	614,100	.... b
Total	1150	701	850	669	13	6	287	26	3,739,490[291]	951,145[121]	120,614,450	52,214,340

West Central Texas

	Completions		Producers		Gas Wells		Failures		Initial Production*		Annual Production	
	1928	1927	1928	1927	1928	1927	1928	1927	1928	1927	1928	1927
Brown County	596	900	290	587	29	15	277	298	26,864[36]	149,954[53]	4,503,500	9,093,490
Bruner County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Callahan County	114	141	33	46	4	3	77	92	756[8]	3,512[28]	1,363,450	1,628,850
Coleman County	184	95	64	6	27	13	93	76	5,670[114]	220[12]	978,600	472,100
Comanche County	13	2	5	..	3	..	5	2	160[6]	.....	.....	.....
Eastland-Desdemona	201	206	72	106	30	22	99	78	22,056[106]	22,451[170]	2,775,400	2,755,765
Erath County	6	..	..	..	3	..	3	..	...	.....	.....	.....
Jack County	73	108	24	55	..	5	49	48	1,910	2,431	539,950	248,780
McCulloch County	16	1	..	..	6	..	10	1	...	.....	.....	.....
Palo Pinto County	26	29	3	7	5	7	18	15	90[15]	320[10]	160,350	446,170
Parker County	2	..	..	..	..	..	2	..	...	.....	.....	.....
San Saba County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Shackleford County	268	270	177	128	8	2	83	140	38,752[22]	10,052[5]	3,45.,200	3,598,755
Stephens County	78	72	23	29	17	13	38	30	2,657[87]	1,953[53]	2,750,650	3,289,790
Throckmorton Co.	18	66	3	25	..	2	15	39	120	4,555[9]	343,900	884,285
Young County	557	288	241	127	3	7	313	154	13,063	27,585	3,062,550	3,395,395
Others	..	..	..	..	..	..	..	..	...	.....	231,700	.... b
Total	2154	2178	935	1116	135	89	1084	973	112,098[414]	223,033[467]	20,144,250	25,813,390

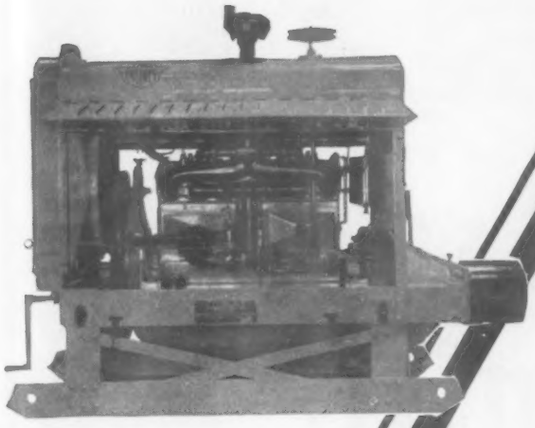
North Texas

Archer County	523	526	263	252	..	..	260	274	14,341	17,679	7,402,200	10,297,530
Baylor County	..	5	..	1	..	..	..	4	...	15	16,100	40,225
Burkburnett	63	66	37	39	..	..	26	27	778	1,312	3,992,500	4,814,090
Clay County	21	36	8	7	2	3	11	26	88	140[2]	85,050	271,455
Collin County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Cooke County	50	204	23	133	..	6	27	65	607	14,308[21]	.... d	1,951,010
Denton County	2	..	..	..	..	..	2	..	...	.....	.....	.....
Electra	175	169	115	87	..	..	60	82	5,565	3,758	4,512,200	5,052,150
Fannin County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Foard County	4	1	..	..	1	..	3	1	...[2]	.....[2]	.....	.....
Grayson County	6	2	..	..	1	1	5	1	...[4]	.....[2]	.....	.....
Hardeman County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Haskell County	6	1	1	..	..	..	5	1	50	.....	.....	.....
K-M-A-Iowa Park	208	174	123	79	..	..	85	95	6.385	4,085	1,260,050	1,211,595
Knox County	2	1	..	..	..	..	2	1	...	.....	.....	.....
Montague County	106	251	79	177	7	13	20	61	2,690[26]	7,031[221]	4,254,550 d	3,458,085
Wilbarger County	368	172	276	129	3	1	89	42	82,209[1]	11,656[1]	8,002,850	4,924,200
Others	..	1	..	..	..	..	..	1	...	.....	125,450	.... b
Total	1537	1609	925	904	14	24	598	681	116,713[23]	59,984[227]	29,650,950	32,020,340

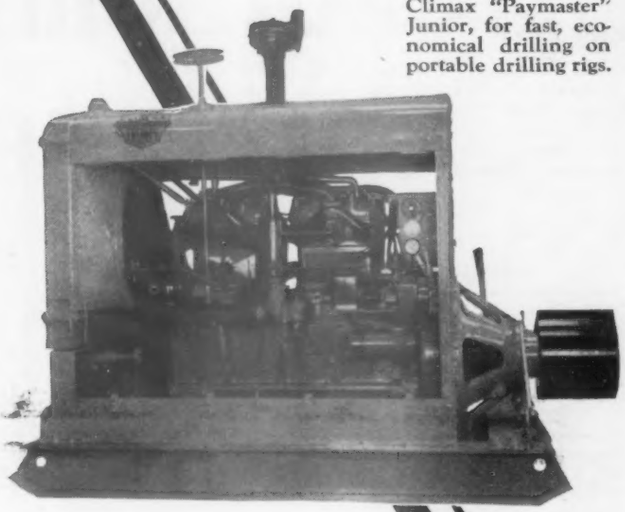
East Texas

Anderson County	2	..	1	..	..	..	1	..	83	.....	.....	.....
Cass County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Harrison County	24	26	3	..	19	26	2	..	36[47]	.....	.....	.....
Henderson County	2	..	..	..	..	..	2	..	...	.....	.....	.....
Panola County	34	8	3	5	28	3	3	..	10[126]	5,119	.....	.....
Marion County	1	1	1	..	..	..	..	..	5	52	.....	.....
Red River County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Shelby County	1	..	1	..	..	..	..	..	154	.....	.....	.....
Wildcats	27	..	2	..	..	..	25	..	56	.....	.....	.....
Total	93	35	11	6	47	29	35	..	344[173]	5,171	.....	.... b

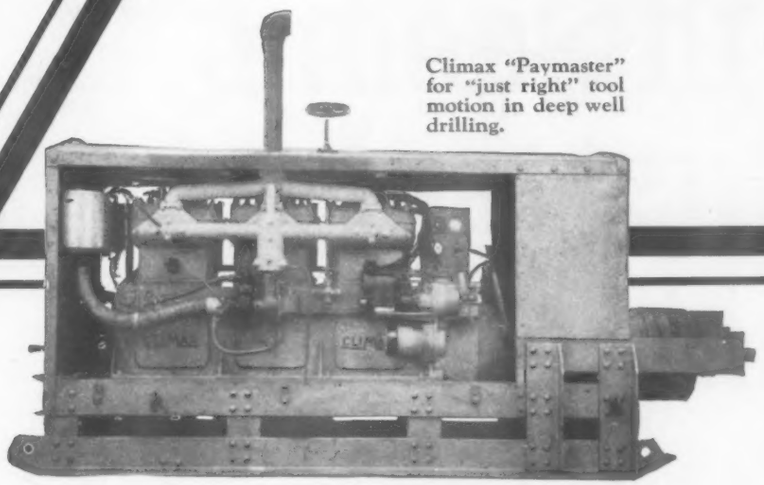
A CLIMAX FOR EVERY PURPOSE



Climax Spudder Engine for handling all spudder drilling—water pumps, gathering pumps, etc.



Climax "Paymaster" Junior, for fast, economical drilling on portable drilling rigs.



Climax "Paymaster" for "just right" tool motion in deep well drilling.

WRITE FOR INFORMATION

CLIMAX Trade Mark Reg. U. S. Pat. Off.

CLIMAX ENGINEERING COMPANY
75 WEST 18TH AVENUE CLINTON, IOWA

DISTRIBUTED BY
THE NATIONAL SUPPLY COMPANIES

Texas Gulf Coast

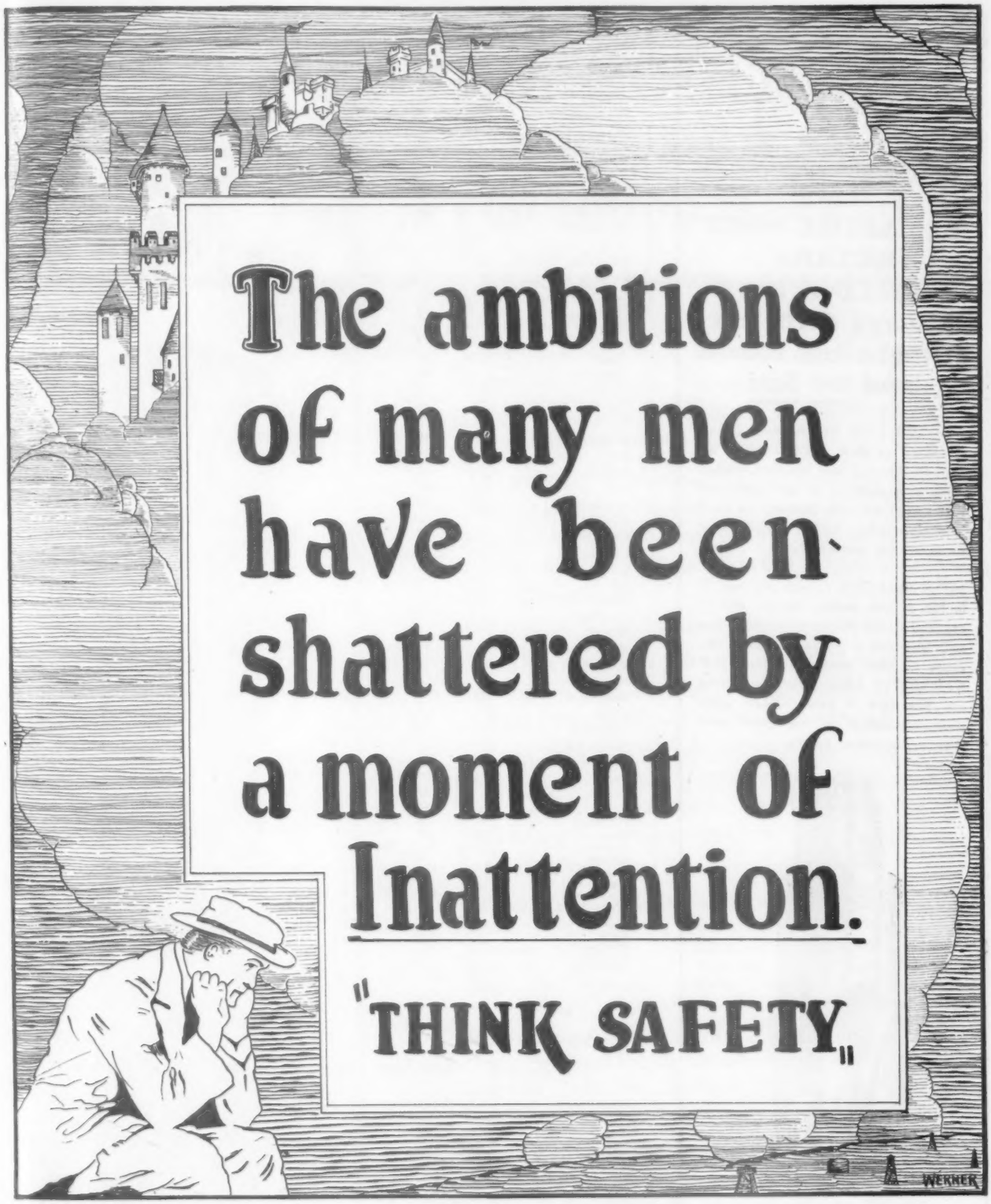
	Completions		Producers		Gas Wells		Failures		Initial Production*		Annual Production	
	1928	1927	1928	1927	1928	1927	1928	1927	1928	1927	1928	1927
Allen Dome	3	..	2	..	..	..	1	..	278	.....	17,450	.....
Barbers Hill	6	6	2	4	..	..	4	2	4,600	1,800	322,950	68,550
Batson	40	41	32	25	..	..	8	16	704	4,070	498,550	532,850
Big Creek	23	26	18	22	..	..	5	4	10,560	21,741	834,250	1,223,450
Blue Ridge	108	56	81	41	..	1	27	14	57,677	29,890	2,302,300	1,122,400
Boling	22	3	7	2	1	..	14	1	1,897	835	828,400	791,250
Clay Creek	2	..	2	..	..	..	..	..	5,150	.....	.....	.....
Clemens Dome	1	..	..	..	..	..	1	..	...	.....	.....	.....
Damon Mound	1	..	1	..	..	..	..	..	30	.....	363,150	336,650
Davis Hill	2	..	..	..	..	..	2	..	...	.....	.....	.....
Edna	2	..	..	..	2	..	..	..	...	.....	.....	.....
Fannett	3	..	1	..	..	..	2	..	135	.....	4,000	.....
Hawkinsville	4	..	..	..	..	..	4	..	...	.....	.....	.....
Goose Creek	32	47	24	28	..	..	8	19	2,025	2,931	2,551,950	2,979,450
High Island	15	8	9	4	..	..	6	4	3,970	1,815	170,450	.....
Hockley	5	..	..	..	..	..	5	..	...	.....	.....	.....
Hull	65	82	49	62	2	..	14	20	20,320	40,114	4,167,200	6,220,550
Humble	2	1	1	1	..	..	1	..	1,100	3,696	683,150	1,158,300
Long Point	12	..	1	..	..	..	11	..	.....	.....	.....	.....
Lost Lake	3	..	..	..	..	..	3	..	...	.....	.....	.....
Markham	1	..	..	..	..	..	1	..	...	.....	109,200	.....
Moore's Field	4	1	2	1	..	..	2	..	1,500	300	45,700	21,150
Moss Bluff	3	..	..	..	..	..	3	..	...	.....	.....	.....
Nash	17	5	8	4	..	..	9	1	8,744	1,560	490,750	394,650
N. Dayton	4	..	2	..	..	..	2	..	9,800	.....	210,000	.....
Orange	47	47	33	34	..	..	14	13	9,042	13,121	1,466,100	1,831,200
Pierce Junction	80	77	56	61	1	3	23	13	56,111	66,896	3,980,400	3,101,300
Raccoon Bend	12	..	4	..	1	..	7	..	6,025	.....	97,800	1,250
Refugio	2	1	1	..	..	1	1	..	160	.....	56,600	.....
Saratoga	22	15	15	9	..	..	7	6	489	108	383,400	405,050
Sour Lake	30	28	20	19	..	..	10	9	797	8,359	1,235,350	1,634,700
S. Dayton	3	..	2	..	..	..	1	..	200	.....	.....	.....
S. Liberty	52	18	40	13	..	..	12	5	19,238	2,806	1,437,650	1,152,750
Spindle Top	51	145	32	95	..	1	19	49	20,709	147,953	14,021,300	21,584,800
Stratton Ridge	6	..	..	..	..	..	6	..	...	.....	.....	.....
Sugarland	6	..	5	..	1	..	..	..	5,810	.....	389,750	.....
W. Columbia	6	7	5	4	..	..	1	3	1,570	3,910	2,946,200	3,535,150
Wildcats	58	107	1	5	..	2	57	100	25	1,030	.....	.....
Others	..	..	..	..	..	..	..	..	...	.....	.....	947,800
Total	755	721	456	434	8	8	291	279	248,666	52,935	39,614,000	49,043,250

Southwest Texas

	Completions		Producers		Gas Wells		Failures		Initial Production*		Annual Production	
	1928	1927	1928	1927	1928	1927	1928	1927	1928	1927	1928	1927
Bee County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Bexar County	..	1	..	1	..	..	..	..	...	2	.....	.....
Caldwell County	20	..	11	..	..	..	9	..	4,565	.....	.....	.....
Dale	12	18	10	12	..	..	2	6	918	3,646	365,100	68,000
Duval County	29	26	10	5	13	19	6	2	1,750[300]	690	.....	29,125
Jim Hogg County	23	..	13	..	1	..	9	..	940[35]	.....	.....	.....
Laredo District	17	45	9	23	4	18	4	4	5,490[78]	1,170	2,791,500	4,440,280
Live Oak County	1	3	..	..	..	1	1	2	...[40]	.....	.....	.....
Luling	1	5	1	5	..	..	..	..	25	220	4,911,050	6,072,815
Lytton Springs	..	2	..	1	..	1	..	..	...	.....[2]	456,850	753,950
Maverick County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Salt Flat	15	..	14	..	..	..	1	..	10,481	.....[80]	215,300	.....
San Patricio County	..	4	..	..	..	3	..	1	...	.....	.....	.....
Somerset	..	1	..	1	..	..	..	..	...	4	266,000	425,050
Starr County	1	..	..	..	1	..	..	..	...[8]	.....	.....	.....
Uvalde County	1	..	..	..	..	..	1	..	...	.....	.....	.....
Val Verde County	2	2	..	..	..	2	2	..	...	.....	.....	.....
Webb County	56	..	39	..	11	..	6	..	11,310[271]	.....	.... e	.... e
Zapata County	10	2	4	..	3	1	3	1	660[45]	.....[81]	.... e	.... e
Wildcats	36	..	9	..	4	..	23	..	1,555[38]	.....	.....	.....
Others	..	14	..	..	..	14	..	..	...	.....	251,000	.... b
Total	226	123	120	48	37	59	69	16	37,694[775]	5,734[381]	9,256,900	11,789,220
Miscellaneous Fields (All Sections)	..	..	..	..	..	..	..	..	...	.....	.....	800,685
Wildcats (All Secs.)	..	402	..	25	..	26	..	351	...	14,154[10]	.....	.....
Texas Grand Total	6284	6558	3486	3861	350	324	2428	2373	4,318,320[4282]	1,834,223[3723]	252,680,750	226,739,420

FOOTNOTES FOR TEXAS TABLES

*—Large figures indicate oil in barrels, and small figures indicate gas in millions of cubic feet.
a—Production included immediately below in "others."
b—Production of miscellaneous fields in 1927 included just above Texas Grand Total in section listed "Miscellaneous Fields."
c—Crane and Upton County production included together.
d—Montague and Cooke County production included together.
e—Included in Laredo District.



Safety Division

MID-CONTINENT OIL & GAS ASSOCIATION

Tulsa Building Tulsa, Oklahoma

(This Space Contributed by a Member of the Association)

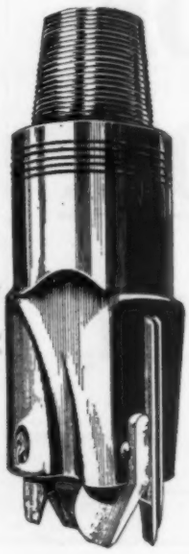
Say you saw it in The OIL WEEKLY

K-P
THE LINE OF LEAST RESISTANCE

STRAIGHT-HOLE ROTARY DRILLING BITS always drill 'em straight and round and for less

You well know the hazards of attempting to drill wells through all formations with any bit that washes away side walls or is not supported sufficiently by side reamers to hold it straight when faults, anticlines or sinclines are encountered.

K-P STRAIGHT HOLE Bit has 57 inches of side cutting surface and at average speed of rotary contacts the side wall 240 times per minute. Because of this constant contact K-P STRAIGHT HOLE Bits in action are just like a tube. *They can't slide regardless of the fault and they never cause caving.*



KENNEDYE-PLUMB CORPORATION
Railway Exchange Building
ST. LOUIS, MO.
Sold by every
"Continental" — "National" —"Oil Well" supply company branch store.

Oklahoma

County—	Completions 1928	Completions 1927	Producers 1928	Producers 1927	Gas Wells 1928	Gas Wells 1927	Failures 1928	Failures 1927	Initial Production 1928	Initial Production 1927
Beaver	1	..	..	..	..	..	1	..	.....	.....
Beckman	15	8	..	..	9	4	6	4	.....	.....
Bryan	2	..	..	..	..	..	2	..	.....	.....
Caddo	18	25	10	21	1	3	7	1	485	857
Canadian	2	1	..	..	..	..	2	1	.....	.....
Carter	103	171	85	117	3	11	15	43	14,933	21,578
Cherokee	1	..	..	..	..	..	1	..	.....	.....
Cimarron	6	1	..	..	..	..	6	1	.....	.....
Cleveland	2	3	..	..	..	..	2	3	.....	.....
Coal	3	1	1	..	..	..	2	1	10	.....
Comanche	7	15	1	2	..	..	6	13	7	35
Cotton	23	3	9	1	3	..	11	2	398	30
Creek	321	520	141	267	39	65	141	188	20,828	50,367
Ellis	1	..	..	..	..	..	1	..	.....	.....
Garfield	14	55	4	26	1	2	9	27	88	5,172
Garvin	14	16	5	9	1	3	8	4	264	241
Grady	140	266	14	122	95	75	31	69	1,375	19,031
Grant	17	10	6	1	4	2	7	7	1,137	600
Greer	1	..	..	..	..	..	1	..	.....	.....
Harper	..	1	..	..	..	..	..	1	.....	.....
Haskell	..	2	..	..	..	..	..	2	.....	.....
Hughes	30	40	10	12	5	10	15	18	1,222	1,940
Jefferson	64	15	40	3	3	1	21	11	1,620	80
Johnson	2	1	..	..	..	..	2	1	.....	.....
Kay	143	225	17	99	51	45	75	81	3,571	33,447
Kingfisher	1	4	..	..	..	..	1	4	.....	.....
Kiowa	7	..	1	..	..	..	6	..	30	.....
Le Fore	..	1	..	..	..	..	..	1	.....	.....
Lincoln	11	30	6	9	1	..	4	21	2,237	1,788
Logan	41	11	20	5	5	2	16	4	17,428	3,058
Love	1	3	..	..	..	..	1	3	.....	.....
Major	1	2	..	..	..	..	1	2	.....	.....
Marshall	14	3	9	..	..	..	5	3	251	.....
Mayes	2	1	..	..	..	..	2	1	.....	.....
McIntosh	2	15	..	4	..	3	2	8	.....	30
Mitchell	2	..	1	..	..	..	1	..	15	.....
Murray	..	2	..	..	..	..	..	2	.....	.....
Muskogee	250	124	77	29	29	18	144	77	4,693	1,315
Noble	7	4	..	1	1	..	6	3	.....	20
Okfusgee	98	94	58	30	12	22	28	42	8,671	11,559
Oklahoma	..	5	..	1	..	..	..	4	.....	40
Okmulgee	249	225	90	92	49	50	110	83	1,799	3,542
Osage	322	391	209	214	36	59	77	118	52,044	59,421
Pawnee	50	83	20	32	9	8	21	43	315	1,847
Payne	20	39	8	23	2	7	10	9	515	6,060
Pittsburg	6	7	..	..	6	3	..	4	.....	.....
Pontotoc	135	69	78	31	15	15	42	23	20,936	10,917
Pottawatomie	339	185	281	128	7	7	51	50	319,901	245,506
Rogers	5	1	..	..	..	..	5	1	.....	.....
Seminole	617	1240	468	944	16	13	133	283	539,702	1,350,323
Sequoyah	5	1	..	..	2	..	3	1	.....	.....
Stephens	268	161	153	71	18	21	97	69	21,004	16,233
Texas	4	5	..	..	..	1	4	4	.....	.....
Tillman	4	6	..	..	..	..	4	6	.....	.....
Tulsa	91	111	36	42	13	16	42	53	2,503	3,499
Waggoner	94	112	14	17	14	16	66	79	290	562
Washita	..	1	..	..	..	..	..	1	...	...
Totals	3576	4315	1872	2353	450	482	1254	1480	1,038,272	1,849,098

Oklahoma Production for 1927 and 1928 by Fields

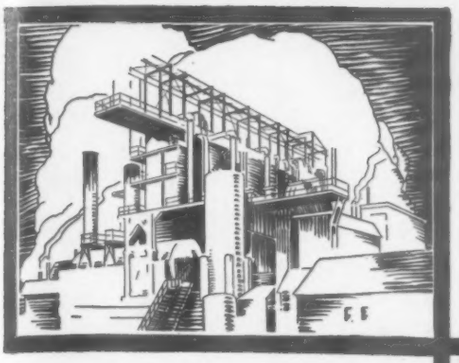
Fields—	1928	1927
Allen (b)	4,204,600	.....
Blackwell	1,290,600	1,423,850
Bowlegs (a)	23,997,750	.....
Burbank	11,967,350	15,349,120
Bristow-Slick	8,197,800	9,261,075
Cromwell	3,460,300	4,589,785
Cushing	7,513,900	7,749,925
Davenport	729,550	1,379,605
Duncan District	2,640,800	2,522,840
Earlsboro	33,396,250	35,690,745
Fox	611,750	683,835
Garber	3,069,500	5,251,850
Graham	1,994,800	2,756,485
Healdton	5,120,350	5,426,670
Hewitt	3,344,450	3,615,775
Hubbard	989,600	2,003,845
Little River (a)	24,804,450	.....
Lyons-Deaner	2,197,700	1,883,255
Maud (c)	359,450	.....
North Braman	1,064,400	1,981,355
North Okmulgee	5,528,350	6,106,655
Oklahoma City	52,200	.....
Osage (Outside Burbank)	10,239,100	11,924,455
Papoose	1,625,800	2,496,925
Pearson (b)	530,150	.....
Scholem-Alechem	5,167,800	5,304,360
Searight (a)	5,217,650	.....
Seminole	18,435,800	98,126,260
St. Louis (b)	18,859,400	.....
Stroud (d)	196,850	499,995
South Braman	582,800	1,177,445
Thomas	487,800	1,050,185
Tonkawa	4,912,600	7,662,255
Watchorn (d)	163,250	791,245
Yale-Jennings	3,025,300	3,968,285
Wewoka	2,437,550	6,424,860
Others	24,709,900	24,199,675
Totals	243,127,650	271,302,615

(a) Included in Seminole in 1928.

(b) Prior to July, 1928, included in others.

(c) Prior to December, 1928, included in Earlsboro.

(d) Last half 1928 included in others.



FIVE POINT PIPE
Stays DOWN—
Production Keeps UP

Once buried, FIVE POINT PIPE—Reading Genuine Puddled Wrought Iron—seldom rises again. You can forget it completely because it's *completely* dependable.

The coating of silicious slag on each inmost fiber of Reading Pipe bars out corrosion. The tough, fibrous structure means immunity to crystallization. Joints stay tight and leak-proof because good threads are quickly and easily cut. Coatings stay on—permanently.

No other pipe material gives such "all-round" reliability. That's why it's important to insist on Genuine *Puddled* Wrought Iron Pipe for oil field or refinery service. Be sure to look for the Reading name, date of manufacture and spiral knurl mark—then you will know you are getting time-tested *puddled* wrought iron.

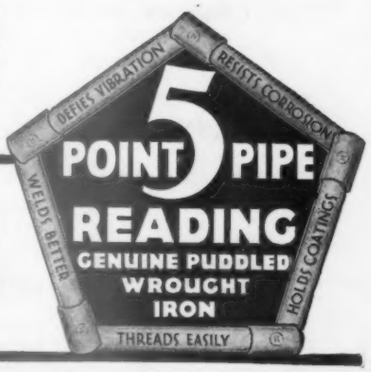
READING IRON COMPANY, Reading, Pennsylvania

Atlanta	Cincinnati	Pittsburgh	Fort Worth
Baltimore	Detroit	Cleveland	Seattle
Boston	Houston	St. Louis	Philadelphia
Buffalo	Los Angeles	Tulsa	New Orleans

Chicago New York San Francisco

Reading pipe distributed by: Frick-Reid Supply Corp., Bradford Supply Co., Republic Supply Co., Superior Tube Co., Reading Iron Co. of Texas.

Reading tubular goods are furnished in sizes ranging from 1/8" to 20" in diameter.



READING PIPE
GENUINE PUDDLED WROUGHT IRON

Sol-Ray

Boiler Scale SOLVENT

Dissolves hardest scale—Prevents scale forming on tubes and side walls of boiler—protects metal indefinitely.

Results Are GUARANTEED

Write today for plant analysis Record. Plant water tests made free upon request.

Manufacturers of Acids for Tool Fishing and Cleaning out Wells.

Ward Chemical Company

"Heavy Chemicals for the Oil Industry"

TULSA, OKLAHOMA

Phone 2-1877

Stocks Carried at
Wichita Falls, Texas

Kansas

County—	Completions 1928	Completions 1927	Producers 1928	Producers 1927	Gas Wells 1928	Gas Wells 1927	Failures 1928	Failures 1927	Initial Production 1928	Initial Production 1927
Barber	4	3	..	..	1	1	3	2	.....	.....
Barton	3	5	..	..	..	..	3	5	.....	.....
Butler	123	184	70	110	..	1	53	73	16,034	20,806
Chase	3	36	..	2	1	15	2	19	.....	50
Chautauqua	11	7	3	2	4	2	4	3	70	40
Clark	2	1	..	..	1	..	1	1	.....	.....
Clay	1	1	1	..	..	..	..	1	20	.....
Coffey	12	15	3	5	2	..	7	10	70	130
Cowley	113	118	20	53	32	17	61	48	1,276	6,058
Dickinson	9	5	..	..	..	..	9	5	.....	.....
Deniphan	..	1	..	..	..	..	..	1	.....	.....
Edwards	..	1	..	..	..	..	..	1	.....	.....
Elk	75	86	37	50	10	8	28	28	3,467	6,555
Ellis	5	3	..	..	..	..	5	3	.....	.....
Ellsworth	2	1	..	..	..	..	2	1	.....	.....
Franklin	2	..	..	..	1	..	1	..	.....	.....
Geary	1	2	..	..	..	..	1	2	.....	.....
Greenwood	214	340	110	175	13	8	91	157	14,439	18,283
Harper	..	5	..	..	..	..	..	5	.....	.....
Harvey	1	2	..	..	1	..	..	2	.....	.....
Jackson	1	..	..	..	..	..	1	..	.....	.....
Kingman	..	6	..	..	..	..	..	6	.....	.....
Labette	4	..	..	..	..	..	4	..	.....	.....
Logan	1	..	..	..	..	..	1	..	.....	.....
Lyon	7	30	..	10	..	..	7	20	.....	1,265
Marion	90	34	43	4	..	..	47	30	4,615	1,750
Marshall	1	..	..	..	..	..	1	..	.....	.....
McPherson	17	7	2	..	6	2	9	5	380	.....
Mead	1	..	..	..	..	..	1	..	.....	.....
Mitchell	..	2	..	..	..	..	..	2	.....	.....
Montgomery	6	..	1	..	1	..	4	..	200	.....
Morris	17	8	1	..	2	3	14	5	30	.....
Osborne	3	1	..	..	..	..	3	1	.....	.....
Osage	..	4	..	..	..	..	..	4	.....	.....
Pawnee	..	1	..	..	..	..	..	1	.....	.....
Pottawatomie	1	2	..	..	..	..	1	2	.....	.....
Pratt	..	1	..	..	..	..	..	1	.....	.....
Reno	2	13	..	1	..	..	2	12	.....	150
Rice	..	20	..	10	..	..	..	10	.....	2,007
Riley	1	..	..	..	..	..	1	..	.....	.....
Rooks	12	1	5	1	..	..	7	..	460	50
Rowlins	..	1	..	..	..	..	..	1	.....	.....
Russell	32	18	23	9	..	1	9	8	5,713	919
Saline	2	3	..	..	..	..	2	3	.....	.....
Sedgwick	5	6	3	..	..	..	2	6	5,000	.....
Seward	3	2	..	..	1	..	2	2	.....	.....
Smith	..	1	..	..	..	..	..	1	.....	.....
Stephens	..	1	..	..	..	1	..	..	.....	.....
Stafford	1	1	..	..	..	..	1	1	.....	.....
Sumner	146	118	100	75	11	5	35	38	43,120	41,373
Wabaunsee	1	1	..	..	..	..	1	1	.....	.....
Wilson	3	12	1	6	..	..	2	6	35	1385
Woodson	18	17	4	5	..	2	14	10	95	260
Totals	956	1127	427	518	87	66	442	543	95,024	91,081

Kansas Production for 1928 And 1927 by Fields

Fields—	1928	1927
Augusta-Fox Bush	1,367,050	1,608,925
Churchill	3,801,400	5,377,040
Eldorado-Towanda	4,945,600	5,003,520
Florence-Covert	433,700	630,845
Greenwood County	10,303,850	13,539,105
Oxford*	4,082,250	.....
Peabody-Ebling	1,264,850	1,394,325
Rainbow Bend	579,950	897,925
Russell	1,259,850	1,076,825
Sedgwick County**	61,500	.....
Others	10,146,850	10,644,505
Totals	38,246,850	40,173,015

*Prior to Jan. 1, 1928, included in Others.
**Prior to Dec. 1, 1928, included in Others.

Seal Beach

Los Angeles.—More wells are drilling in the Seal Beach than at any time during the past six months. This increase in field operations is chiefly for the purpose of maintaining present production, and is not expected to carry far. The drilling is mostly confined to the main field, where several good wells have been completed during recent weeks. The Wasem sand should be productive in the conservatively developed area and will be drilled as needed. Standard Oil Company is drilling six wells on its San Gabriel lease, having completed a 650-barrel producer during the week. Marland Oil Company and Associated Oil Company are expected to drill wells enough to maintain their present production.

This installation of twenty Ingersoll-Rand compressors in a Gas Lift Station of the Carter Oil Company, Seminole Area, is satisfactorily packed with "V" Pilot Packing.

Note the resilient asbestos back of "V" Pilot Packing, which compensates for the vibration of the rod. Observe also the solid "V"-shaped bar of anti-friction metal which is slotted for flexibility, with the slots staggered to prevent leakage and retain lubrication. A perfect seal is provided with the minimum friction.

In Your Air or Gas Lift Service . . . . . .

"V" Pilot Packing will give long, dependable service, be absolutely tight under "kick-off" as well as flowing pressures, reducing friction and eliminating scored piston rods.

Distributors listed below stock "V" Pilot Packing in spiral form in 10-foot lengths. A trial of "V" Pilot will indicate its adaptability for your service. Get in touch today with the nearest distributor, or if you wish, write us direct.

Distributors

BEAUMONT, TEXAS
Norvell-Wilder Hardware Co.
BUFFALO, NEW YORK
Buffalo Mill Supply Co.
CHICAGO, ILLINOIS
O. C. Keckley Company
DENVER, COLORADO
Mine & Smelter Supply Co.
FORT WORTH, TEXAS
Norvell-Wilder Hardware Co.
HOUSTON, TEXAS
Texas Rubber Specialty Co.
LOUISVILLE, KY.
Graft-Pelle Co.
PITTSBURGH, PA.
Argo Asbestos & Rubber Co.
ST. LOUIS, MISSOURI
J. P. Bushnell Packing & Supply Company
SHREVEPORT, LA.
Norvell-Wilder Hardware Co.
TOLEDO, OHIO
Hardy & Dischinger
TULSA, OKLAHOMA
Mid-Continent Sales Service Company

With resilient asbestos material backing its solid "V"-shaped bar which bears on the rod, "V" Pilot provides a perfect seal without friction and enables compressors to run cool.

Unlike other packings, "V" Pilot does not contract in service and require constant drawing up of the gland to hold pressures, thus increasing friction and necessitating the application of additional rings of packing. Instead, "V" Pilot *expands* in service, and four to five rings are ample to hold air and gases tight up to 1500 lbs.

"V" Pilot is free from embrittlement of lead to which some packings are subject. This action, occurring under changing temperatures, results in the deposit of thin layers or particles of metal under valves or in discharge and oil lines. The solid bar construction of "V" Pilot eliminates embrittlement of lead.

In addition to compressors in lift service, "V" Pilot is also highly efficient on Derrick engines, Slush Pumps (both steam and mud ends), Polish Rods on pumping wells, Oil Field Gas Pumping Engines (to seal the oil between crank case and compression chamber), Pipe Line Pumps and other equipment employing packing. We are prepared to furnish molded sets to fit the rod and box of all types of compressors, pumps and other equipment. Write for complete information.

NEW JERSEY ASBESTOS COMPANY
One Water Street, New York, N. Y.

Philadelphia
216 Walnut St.
Boston
148 Pearl St.
Baltimore
17 So. Gay St.
Norfolk
111 E. Main St.
San Francisco
37 Spear St.
Wilmington, Cal.
236 Avalon Blvd.

"V" PILOT PACKING

Say you saw it in The OIL WEEKLY

Summary of Field Operations for January, 1929

EASTERN STATES

NEW YORK

	Completions	Producers	Gas Wells	Failures	Initial Prod.
Allegany	54	54	..	..	177

PENNSYLVANIA

Allegheny	1	..	..	1	...
Bradford	141	135	..	6	439
Butler	7	6	1	..	699-¶
Center-Middle	9	9	..	..	19
Clarion	7	5	..	2	13
Greene	10	1	7	2	10
Venango	16	15	1	..	35-¶
Total	245	225	9	11	1,392-¶

CENTRAL OHIO

	Completions	Producers	Gas Wells	Failures	Initial Prod.
Ashland	11	2	4	5	42-¶
Athens	15	2	8	5	2-¶
Coshocton	7	5	1	1	-¶
Cuyahoga	3	..	3	..	...
Fairfield	1	..	1	..	...
Guernsey	3	..	2	1	...-¶
Hocking	8	8	..	..	280
Holmes	9	1	7	1	8-¶
Jackson	5	..	4	1	...-¶
Knox	4	..	1	3	...
Lawrence	1	..	..	1	...
Licking	18	11	3	4	140-¶
Lorain	3	..	3	..	...-¶
Medina	5	..	2	3	...-¶
Meigs	10	6	3	1	85
Muskingum	6	4	1	1	234-¶
Perry	16	7	6	3	338-¶
Star	1	..	1	..	...-¶
Summit	5	..	4	1	...-¶
Tuscarawas	1	..	..	1	...
Vinton	2	1	1	..	7
Wayne	4	..	3	1	...-¶
Total	138	47	58	33	1,443-¶

SOUTHEASTERN OHIO

Belmont	1	1	..	..	8
Jefferson	3	1	..	2	2
Monroe	12	5	5	2	36-¶
Morgan	16	..	16	..	...-¶
Noble	6	5	..	1	16
Washington	22	10	9	3	31-¶
Total	60	22	30	8	93-¶

NORTHWESTERN OHIO

Allen	1	1	..	..	20
Auglaize	1	1	..	..	10
Hancock	3	2	..	1	70
Hardin	1	..	1	..	...
Mercer	1	1	..	..	5
Ottawa	1	1	..	..	6
Seneca	6	2	1	3	41-¶
Wood	1	1	..	..	1
Wyandot	1	..	..	1	...
Total	16	9	2	5	153-¶
Total Ohio	214	78	90	46	1,689-¶

WEST VIRGINIA

Boone	2	1	1	..	10
Cabell	3	..	3	..	...-¶
Calhoun	8	1	7	..	4-¶
Clay	1	..	1	..	...-¶
Doddridge	2	..	2	..	...-¶
Gilmer	7	1	3	3	5-¶
Harrison	3	..	3	..	...-¶
Jackson	2	2	..	..	42
Lewis	2	..	1	1	...
Lincoln	7	..	7	..	...-¶
Logan	1	..	1	..	...-¶
Marion	3	..	3	..	...-¶
Marshall	1	..	1	..	...
Monongalia	2	..	2	..	...-¶
Putnam	1	..	1	..	...
Ritchie	19	8	7	4	59-¶
Roane	2	2	..	..	40
Roanoke	1	..	1	..	...
Wayne	3	..	3	..	...
Wetzel	4	..	2	2	...-¶
Wood	4	2	..	2	30
Total	78	17	49	12	190-¶

RECAPITULATION: ENTIRE UNITED STATES—JANUARY, 1929

(¶-Million cubic feet of gas)

Section—	Completions	Producers	Gas Wells	Failures	Initial Prod.	Monthly Prod.
Oklahoma	298	155	29	111	99,546-¶	22,399,000
Kansas	53	24	7	22	2,977-¶	3,011,050
Texas (outside Coast	663	382	38	243	417,777-¶	19,608,150
Gulf Coast	106	67	3	36	36,683-¶	4,238,850
North Louisiana	39	6	21	12	411-¶	1,104,750
Arkansas	25	16	3	6	5,066-¶	2,436,500
Eastern	789	482	161	146	11,024-¶	3,470,200
Rocky Mountain	...	...	..	...	.....	2,269,450
California	95	89	..	6	173,080	23,164,800
Total	2,068	1221	262	582	746,564 (G 1045)	81,702,750
December	1,742	981	250	511	429,869	79,295,150
Change	+326	+240	+12	+71	+316,695	+2,407,600

KENTUCKY

	Completions	Producers	Gas Wells	Failures	Initial Prod.
Allen	6	2	..	4	4
Barren	3	3	..	..	33
Breckenridge	1	..	..	1	...
Clay	1	..	..	1	...
Daviess	47	23	1	23	815
Estill	4	3	..	1	5
Hancock	3	1	..	2	2
Hardin	1	..	..	1	...
Lee-Owsley	1	..	1	..	...-¶
Magoffin	2	2	..	..	29
McLean	1	..	..	1	...
Ohio	36	26	1	9	796
Rowan	1	..	1	..	...-¶
Warren	5	3	..	2	8
Total	112	63	4	45	1,692-¶

INDIANA

Crawford	1	..	..	1	...
Gibson	6	2	..	4	51
Jay	1	1	..	..	25
Pike	4	1	1	2	10-¶
Rush	1	..	1	..	...
Spencer	4	1	..	3	25
Steuben	1	1	..	..	5
Sullivan	1	1	..	..	15
Vanderburg	1	..	..	1	...
Total	20	7	2	11	131-¶

ILLINOIS

Crawford	7	5	1	1	48-¶
Cumberland	1	..	..	1	...
Lawrence	1	1	..	..	15
Marion	1	..	..	1	...
Wabash	7	5	..	2	300
Total	17	11	1	5	363-¶

MICHIGAN

Isabelle	1	1	..	..	150
Huron	1	..	..	1	...
Manistee	1	..	..	1	...
Mason	1	..	1	..	...
Muskegon	41	26	5	10	5,240-¶
St. Clair	4	..	..	4	...
Total	49	27	6	16	5,390-¶
Grand Total, January, Eastern States	789	482	161	146	11,024-¶

MOUNTAIN STATES

WYOMING

	January Prod.
Salt Creek	995,200
Grass Creek	71,050
Elk Basin	27,100
Big Muddy	74,950
Lost Soldier	110,200
Rock Creek	73,500
Lance Creek	10,250
Oregon Basin	78,000
Others	194,500
Total	1,634,750

MONTANA

Cat Creek	46,250
Sunburst	215,900
Pondera	73,500
Total	335,650

COLORADO

Moffats	32,300
Ft. Collins	80,750
Florence	35,700
Others	68,850
Total	217,600

NEW MEXICO

Table Mesa	3,850
Artesia	32,550
Hogback	15,500
Rattlesnake	26,450
Others	3,100
Total	81,450
Grand total Mountain States	2,269,450

OKLAHOMA

	Completions	Producers	Gas Wells	Failures	Initial Prod.
Beckham	1	..	1	..	...-¶
Caddo	2	1	..	1	6
Carter	7	5	1	1	166-¶
Comanche	1	..	..	1	...
Cotton	3	1	..	2	34
Creek	29	16	5	8	1,621-¶
Garvin	2	..	..	2	...
Grady	7	..	5	2	...-¶
Grant	1	..	..	1	...
Hughes	1	..	..	1	...
Jackson 1	1	..	..	1	...
Kay	15	2	2	11	365-¶
Kiowa	11	2	..	9	46
Latimer	1	..	..	1	...
Le Flore	1	..	..	1	...
Lincoln	2	..	..	2	...
Logan	9	6	..	3	11,598
Marshall	1	..	..	1	...
Muskogee	12	5	3	4	370-¶
Noble	1	..	..	1	...
Okfuskee	11	8	1	2	1,115-¶
Oklahoma	1	1	..	..	6,565
Okmulgee	21	7	3	11	1,367-¶
Osage	24	14	..	10	2,765
Pawnee	2	..	..	2	...
Payne	14	11	..	3	3,457
Pittsburg	2	..	1	1	...
Pontotoc	7	3	1	3	620-¶
Pottawatomie	47	39	..	8	45,134
Seminole	39	28	1	10	23,737-¶
Stephens	12	6	1	5	581-¶
Tulsa	1	..	..	1	...
Wagoner	9	..	4	5	...-¶
Total	298	155	29	111	99,516-¶

KANSAS

Butler	13	10	..	3	1,990
Coffey	3	..	2	1	...-¶
Crowley	5	..	3	2	...-¶
Elk	7	5	..	3	257
Ellis	1	1	..	..	75
Greenwood	16	7	1	8	665-¶
Marion	2	..	..	2	...
McPherson	1	..	..	1	..
Morris	1	..	1	..	...-¶
Russell	2	1	..	1	80
Sumner	1	..	..	1	...
Woodson	1	..	..	1	...
Total	53	24	7	22	2,977-¶

KANSAS PRODUCTION SUMMARY

	January Prod.
Greenwood	719,800
Florence	28,500
Peabody	100,750
ElDorado	388,100
August Fox-Bush	92,650
Rainbow Bend	34,600
Russell	106,950
Churchill	232,250
Oxford	191,500
Sedgwick	212,450
Others	903,500
Total	3,011,050

CALIFORNIA

	Completions	Producers	Gas Wells	Failures	Initial Prod.
Belridge	2	2	..	..	225
Dominguez	1	1	..	..	200
Elwood	1	1	..	..	4,100
Hunstington Beach	1	1	..	..	150
Inglewood	1	1	..	..	625
Kern Front	3	3	..	..	600
Long Beach	32	32	..	..	28,075
McKittrick	1	1	..	..	100
Richfield	2	2	..	..	825
Rincon	1	1	..	..	100
Round Mountain	1	1	..	..	140
Santa Fe Springs	33	33	..	..	124,430
Seal Beach	3	3	..	..	4,100
South Mountain	1	1	..	..	160
Ventura	6	6	..	..	9,250
Wildcats	6	..	..	6	...
Total	95	89	..	6	173,080

CALIFORNIA PRODUCTION SUMMARY

	January Prod.
Santa Fe Springs	4,611,000
Long Beach	5,612,000
Huntington Beach	1,519,000
Torrance	468,500
Dominguez	310,000
Rosecrans	203,000
Inglewood	849,000
Midway-Sunset	2,273,000
Ventura	1,648,000
Seal Beach	913,500
Elwood-Goleta	327,500
Kettleman Hills	75,000
Others	4,355,300
Total	23,164,800

OKLAHOMA

OKLAHOMA PRODUCTION SUMMARY

Field—	January Production
Braman	117,400
Blackwell	103,650
Hubbard	65,900
Thomas	29,450
Tonkawa	348,850
Garber	201,650
Burbank	732,800
Osage	818,150
Cushing	647,850
Yale	240,000
Davenport	51,400
Bristow	596,900
N. Okmulgee	451,000
Lyons-Deaner	228,600
Cromwell	251,600
Papoose	110,050
Wewoka	165,250
Seminole	1,244,150
Bowlegs	1,323,800
Searight	277,300
Little River	2,968,800
Earlsboro	2,139,350
Duncan	228,350
Graham	140,950
Fox	46,500
Healdton	311,250
Hewitt	271,850
Scholem-Alechem	434,600
Pearson	51,500
Oklahoma City	176,550
St. Louis	4,063,550
Allen	858,500
Maud	896,100
Logan County	418,100
Others	1,272,000
Total	22,399,000

ARKANSAS

Nevada	1	1	..	..	25
Ouachita	3	3	..	..	305
Union	18	10	3	5	4,691-¶
Wildcats	3	2	..	1	45
Total	25	16	3	6	5,066-¶

ARKANSAS PRODUCTION SUMMARY

	January Prod.
El Dorado	149,900
Champagnolle	339,650
Smackover Light	215,950
Smackover Heavy	1,600,950
Stephens	31,000
Nevada	44,000
Lisbon	49,600
Others	3,100
Total	2,436,500

TEXAS

TEXAS PANHANDLE

Field—	Completions	Producers	Gas Wells	Failures	Initial Prod.	Monthly Prod.
Carson	2	2	..	..	875	179,850
Cochran	1	..	..	1	...	...
Gray	15	14	..	1	7,395	709,250
Hall	1	..	..	1	...	...
Hutchinson	9	8	1	..	425-¶	859,250
Moore	5	5	..	..	2,425	...
Wheeler	5	..	4	1	...-¶	23,950
Others	..	..	..	..	...	80,950
Total	38	29	5	4	11,170-¶	1,853,250

SOUTHWEST TEXAS

Duvall	6	5	1	..	1,375	...
Jim Hogg	4	3	..	1	165	...
Lytton Spgs.	1	..	..	1	...	31,800
Nueces	1	..	1	..	...	...
Somerset	..	..	..	..	...	20,500
Laredo Dist.	..	..	..	..	...	339,950
Dale	..	..	..	..	...	23,400
Luling	..	..	..	..	...	406,850
Salt Flat	44	36	3	5	13,149-¶	453,550
Webb	16	10	5	1	3,065-¶	...
Zapata	9	4	2	3	270	...
Zavalla	1	..	..	1	...	...
Wildcats	17	3	1	13	157-¶	...
Others	..	..	..	..	...	50,200
Total	99	61	13	25	18,181-¶	1,326,250

NORTH TEXAS

Archer	40	21	..	19	769	609,550
Burkburnett	2	..	..	2	...	291,450
Clay	2	..	..	2	...	...
Cooke	7	6	..	1	255	301,250
Electra	14	10	..	4	435	465,450
Foard	2	..	..	2	...	...
Haskell	2	1	..	1	70	...
KMA- Iowa Park	37	32	..	5	5,208	186,600
Montague	5	3	..	2	70	...
Wilbarger	47	33	..	14	5,090	908,650
Others	..	..	..	..	...	17,050
Total	158	106	..	52	11,897	2,780,000

WEST CENTRAL TEXAS

Brown	53	21	1	31	596-¶	292,250
Callahan	33	10	..	23	162	112,150
Coleman	26	8	3	15	465-¶	110,700
Comanche	3	3	..	..	95	...
Eastland	12	1	2	9	30-¶	207,300
Erath	1	..	1	..	-¶	...
Fisher	1	1	..	..	200	...
Jack	3	1	..	2	350	53,050
McCulloch	1	..	..	1	...	...
Palo Pinto	3	1	1	1	35-¶	12,400
Shackleford	33	21	1	11	3,718-¶	353,650
Stephens	11	1	3	7	3-¶	216,250
Throckmorton	1	..	..	1	...	22,200
Young	45	17	..	28	562	242,300
Others	..	..	..	..	...	21,700
Total	226	85	12	129	6,216-¶	1,643,950

EAST CENTRAL TEXAS

Boggy Creek	..	..	..	..	...	79,850
Cedar Creek	1	1	..	..	75	...
Corsicana-Powell	..	..	..	..	...	292,350
Currie	..	..	..	..	...	15,500
Limestone	2	..	..	2	...	...
Mexia	..	..	..	..	...	186,250
Nigger Creek	..	..	..	..	...	19,800
Richland	..	..	..	..	...	15,500
Wortham	..	..	..	..	...	43,400
Total	3	1	..	2	75	652,150

WEST TEXAS

Crane	3	3	..	..	705	1,555,050
Crockett	..	..	..	..	...	75,600
Howard	25	24	..	1	22,445	1,180,050
Jones	11	10	..	1	3,475	201,500
Mitchell-Scurry	..	..	..	..	...	84,250
Pecos	11	11	..	..	100,975	2,285,950
Reagan	5	5	..	..	1,665	585,800
Upton	1	1	..	..	150	...
Winkler	46	44	..	2	240,685	5,331,500
Wildcats	21	2	..	19	138	...
Others	..	..	..	..	...	52,850
Total	123	100	..	23	370,238	11,352,550

EAST TEXAS

Field—	Completions	Producers	Gas Wells	Failures	Initial Prod.	Monthly Prod.
Harrison	2	..	2	..	...-¶	...
Panola	8	..	6	2	...-¶	...
Wildcats	6	..	..	6	...	...
Total	16	..	8	8	...-¶	...

TEXAS GULF COAST

Barbers Hill	1	1	..	..	2,500	68,100
Batson	3	3	..	..	23	40,550
Big Creek	4	4	..	..	5,710	101,600
Blue Ridge	10	9	..	1	2,610	159,900
Boling	3	2	..	1	2,800	78,050
Clay Creek	1	1	..	..	600	...
Clemens Dome	1	..	..	1	...	...
Damon M'd	..	..	..	..	...	29,450
Davis Hill	1	..	..	1	...	...
Edna	1	..	1	..	...-¶	...
Goose Creek	4	3	..	1	150	195,600
Hull	5	5	..	..	2,365	308,500
Humble	..	..	..	..	...	153,600
Lost Lake	1	..	..	1	...	...
Moores Field	1	..	..	1	...	...
Nursery (Victoria Co.)	2	..	..	2	...	...
Orange	3	1	..	2	60	98,500
Pierce Jct.	5	3	..	2	2,700	359,850
Raccoon Bend	3	3	..	..	1,600	53,200
Refugio	2	..	2	..	...-¶	...
Saratoga	1	1	..	..	70	...
Sour Lake	1	..	..	1	...	89,900
So. Liberty	22	20	..	2	9,080	234,000
Spindle Top	..	..	..	..	...	1,050,650
Sugar Land	1	1	..	..	1,600	217,500
W. Columbia	..	..	..	..	...	223,200
Wildcats	7	1	..	6	25	...
Others	..	..	..	..	...	107,300
Total	83	58	3	22	31,893-¶	3,569,450

TEXAS RECAPITULATION

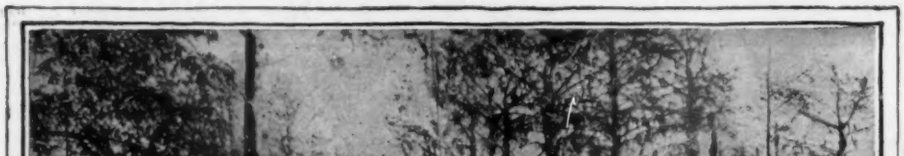
Panhandle	38	29	5	4	11,170-¶	1,850,250
Southwest	99	61	13	25	18,181-¶	1,326,250
North	158	106	..	52	11,897	2,780,000
W. Central	226	85	12	129	6,216-¶	1,643,950
E. Central	3	1	..	2	75	652,150
East	16	..	8	8	...-¶	...
West	123	100	..	23	370,238	11,352,550
Total Outside Gulf	663	382	38	243	417,777-¶	19,608,150
Gulf Coast	83	58	3	22	31,893-¶	3,540,000
Grand total	746	440	41	265	449,670-¶	23,148,150

NORTH LOUISIANA

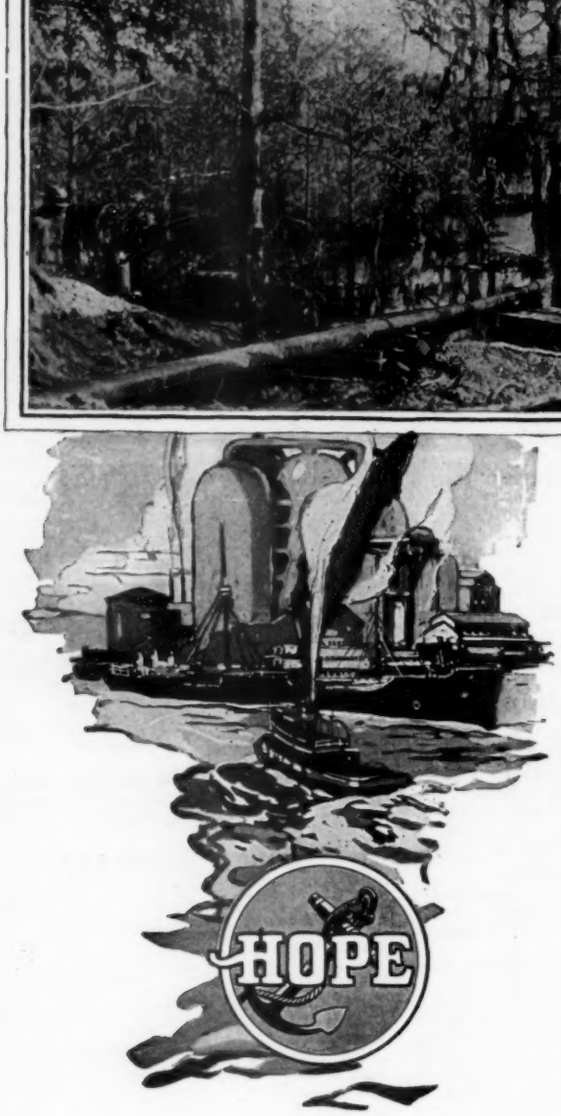
Bienville	2	..	1	1	...-¶	...
Bellevue	..	..	..	..	...	24,000
Bossier	2	..	..	2	...	...
Cotton Valley	..	..	..	..	...	100,750
Homer	..	..	..	..	...	125,550
Haynesville	..	..	..	..	...	168,950
LaSalle	1	..	..	1	...	...
Caddo	5	2	1	2	45-¶	343,800
DeSoto-Red River	2	1	..	1	25	125,650
Elm Grove	..	..	..	..	...	18,600
Morehouse	3	..	3	..	...-¶	...
Pleasant Hill	..	..	..	..	...	15,500
Ouachita	5	..	5	..	...-¶	...
Urania	..	..	..	..	...	180,950
Richland	2	..	2	..	...	...
Webster	6	1	4	1	158-¶	...
Wildcats	11	2	5	4	183-¶	...
Others	..	..	..	..	...	1,000
Total	39	6	21	12	411-¶	1,104,750

SOUTH LOUISIANA

Anse La Butte	1	..	..	1	...	...
BayouBouillon	2	..	..	2	...	13,400
Black Bayou	1	..	..	1	...	...
E. Hackberry	4	3	..	1	3,000	177,250
Edgerly	1	1	..	..	15	31,250
Evangeline	3	2	..	1	110	24,600
Hackberry	1	..	..	1	...	...
Lockport	1	1	..	..	300	126,950
Loreauville	1	..	..	1	...	...
Sorrento	1	..	..	1	...	31,150
Sulphur	3	1	..	2	1,300	90,500
Thibodaux (Chocahoula)	1	..	..	1	...	...
Sweet Lake	..	..	..	..	...	24,750
Vinton	1	..	..	1	...	124,650
Wildcats	2	1	..	1	65	...
Others	..	..	..	..	...	24,900
Total	23	9	..	14	4,790	669,400
Grand Total Louisiana	62	15	21	26	5,201-¶	1,774,150



HE-78



HOPE Service

From Canada to the Gulf—from the Atlantic coast to the Pacific—and even beyond the bounds of U. S. A.—wherever and whatever the job—the Hope Company is ready with organization, man-power and equipment. Whether the work need 40 men or (as has been the case) 4000 men, Hope Service proceeds with clock-like precision—and at the minimum of cost which conditions warrant. In the character of work in which the Hope Company specializes, time is the vital factor. Hope Service delivers on time.

ENGINEERS CONTRACTORS

HOPE ENGINEERING COMPANY

DESIGNERS MANUFACTURERS

MOUNT VERNON, OHIO, U.S.A.

NEW YORK, N.Y. DALLAS, TEX. TULSA, OKLA. CASPER, WYO.

Say you saw it in The OIL WEEKLY

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BUTLER COUNTY—		
Empire, Linnerson 2, sw ne sw, 34-27-5e	*	2759
COWLEY COUNTY—		
T. B. Slick & Markham, Alspaugh 1, sw ne, 27-31-5e	*	3045
Kentucky Nitrogen & Oxygen Co., Barnhardt 1, nw sw se 7-33-7e	*	1037
GREENWOOD COUNTY—		
Marshall et al, Bonnett 8, sw nw, 13-24-12e	25	1742
Stark et al, Scott 1, ne se, 18-24-12e.	*	1788
MARION COUNTY—		
Frank et al, Reed 1, nw, 17-19-4e	¶¼	2405

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CADDO COUNTY—		
Magnolia, Cutshall 2, ne se se, 5-5n-9w	25	2307
CARTER COUNTY—		
Magnolia, Bell 5, nw se sw, 13-1s-4w	85	2938
COTTON COUNTY—		
Cullum & Perkins et al, Priddy 5, sw ne se ne, 3-2s-10w	*	2214
Razor & Akins, McComb 1, sw nw ne sw, 35-1s-10w	*	2223
CREEK COUNTY—		
Gray Oil Co., Ramsey 2, sw ne se, 10-14-10e	*	3265
Silurian, Jackson 1, se, 30-17-7e	*	3207
GRADY COUNTY—		
Carter, Mar-Horton 2, ne sw, 8-3n-5w	195	1839
Oklahoma Gas Util., Dryden 1, ne, 3-4n-8w	¶10	2124
Williams 2a, ne sw sw, 11-4n-8w.	5	2607
Texas, Glover 5, cnl se ne sw, 13-4n-8w	*	2395
J. B. Nichols, Williams 1, ne sw, 26-4n-8w	*	3510
Little Nick Oil Co., Farwell-Smith 1, sw nw, 24-5n-8w	*	2267
HUGHES COUNTY—		
Texas, Street 1, ne nw sw, 21-7-8e	50	3169
JEFFERSON COUNTY—		
Humble, Seay 1, nw ne, 3-7s-5w	135	1180
KIOWA COUNTY—		
Joe Ray, Level 1, se ne, 10-6n-17w.	*	750
MARSHALL COUNTY—		
George Bilbo, Johnson 1, ne se nw 14-5s-5e	*	825
MUSKOGEE COUNTY—		
Gypsy, Sanders 4, (OWDD) nw sw sw, 34-15-18e	20	1855
H. E. Williams, Lewis 2a, (TWIN) nw sw ne, 17-15-17e	30	1305
J. Summers et al, Howard 1a, ne nw nw nw, 29-15-16e	50	1215
OKFUSKEE COUNTY—		
Minnehoma Oil Co., Fixico 1, nw sw se, 29-12-10e	150	2938
Darby Pet. Co., Smith 1, ne sw, 33-12-10e	*	3824
Simms Pet. Co., Dunn 7, ne nw ne ne, 21-13-14e	*	2608
J. Rebold Oil Co., Scott 2, nw sw ne, 27-13-11e	*	3300
OKMULGEE COUNTY—		
Rounsaville, Rentie 4, csl ne se, 30-12-12e	15	1235
Aiken Oil Co. et al, Fox 2 (OWDD) cel se nw, 22-13-14e	10	1650
Miller & Moore, Rowe 4, sw nw ne, 10-15-14e	2	956
OSAGE COUNTY—		
Clint Moore Estate et al, No. 1, nw ne, 16-21-9e	225	2134
Lewis Prod. Co., et al No. 2, ne se 15-26-6e	180	3000
Carter No. 2, nw ne se, 33-26-6e	40	2904
A. G. Oliphant No. 1, sw sw sw, 1-23-9e	*	1540
Peters Pet. Co., No. 7, cel w½ nw, 26-25-9e	*	2270

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Arkansas	6	7	3	5	..	..	3	2	559	240
California	25	19	24	19	..	..	1	..	50,825	46,175
Illinois	..	3	..	1	..	..	..	2	...	80
Indiana	..	3	..	2	..	..	..	1	...	15
Kansas	6	12	1	3	1	1	4	8	25	250
Kentucky	39	25	17	15	3	..	19	10	904	323
Louisiana	13	9	4	2	1	2	8	5	935	565
Michigan	8	5	5	2	..	3	3	..	2,100	600
New York	7	..	7	..	..	..	..	..	27	...
Ohio	52	33	22	14	14	9	16	10	568	517
Oklahoma	62	44	36	21	2	8	24	15	15,742	12,608
Pennsylvania	46	7	43	2	2	5	1	..	197	240
Texas	133	142	66	80	16	5	51	57	45,767	56,895
West Virginia	10	37	1	6	9	25	..	7	5	45
Total	407	347	229	172	48	58	130	117	117,654	118,553
Increase this week	60	..	57	..	..	..	13	..	...	...
Decrease this week	..	..	..	..	10	..	..	..	899	...

Company, Well and Location	Initial Production Bbls.	Depth
I. T. I. O. No. 403, sw nw ne, 24-26-11e	*	1677
PONTOTOC COUNTY—		
Ramsey, Miller 5, nw sw, 17-5-8e	400	2848
Ogg Pet. Co., Roberts 3, sw se sw, 29-5n-5e	50	2664
POTTAWATOMIE COUNTY—		
Independent, Knapp 9, nw ne, 8-9-5e.	1044	4414
Magnolia, Germay 1, se nw, 30-9-5e.	28	4212
Gypsy, Bourassa 4, se ne ne, 7-8-5e.	137	4149
Pure, Wiley 3, sw nw, 8-8-5e	750	4117
Pure, Wiley 2, sw se nw, 8-8-5e.	1413	4148
Pure, Wiley 1, se nw, 8-8-5e.	1395	4101
Independent, Harding 2, ne se nw, 18-8-5e	2590	4130
Gypsy, Miller 2, se, 18-8-5e.	3500	4109
McCullock Oil Co., Bruno 4, se ne, 25-7-4e	464	4135
T. B. Slick, Smith 2, ne nw se, 30-7-5e	10	4252
T. B. Slick, Spangler 1, nw se nw nw, 17-7-2e	*	6098
Gypsy, Bourassa 2, ne, 7-8-5e	*	4454
SEMINOLE COUNTY—		
Burke-Greis, Lucy 3, csl ne ne se, 18-5-8e	600	2599
Anderson & Pritchard, Culley 8, se ne, 18-5-8e	275	2663
Westheimer & Daube, Wade 9, nw se sw, 19-5-8e	450	2656
Gypsy, Sango 13, ne nw se, 1-9-5e.	82	4349
Barnsdall, Barkus 1, sw ne, 26-7-6e.	¶70	3164
Sinclair, Ballars 6, se nw ne, 19-8-5e.	716	4243
W. B. Pine, Hoyecha 8, nw sw se, 26-8-6e	405	4818
T. B. Slick, Harjo 1, nw ne, 11-5-6e.	*	3950
I. T. I. O., Flett 1, se nw, 19-5-8e.	*	2895
Furhman Pet. Co., Fay 1, se nw sw, 27-11-6e	*	4773
Barnsdall, Fife 2, sw ne nw, 14-8-5e.	*	4419
STEPHENS COUNTY—		
Pace et al, Green 1, nw sw ne, 2-2s-8w	100	2175
Pace et al, Smith 2, se sw sw se, 35-1s-8w	120	2239
Fisher & Rankin, Kukuk 1, ne nw sw, 14-1s-8w	*	2305
Magnolia, Thomas 2, cel se se, 25-1n-9w	*	2880
Pandem Oil Co., Green 1, sw, 35-2n-9w	*	2547

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
BRADFORD FIELD—		
South Penn Oil Co., Melvin 262	2	....
Melvin 263	2	....
Melvin 264	2	....
Melvin 265	2	....
Melvin 266	2	....
Melvin 267	2	....
Whipple 28	2	....
Whipple 29	Pressure	....
Bingham 423, tr 19	5	....
Bingham 390, tr 12	5	....
Bingham 570, tr 1	2	....
Weston, Jr., 1	3	....
Taylor 33	3	....
Bingham-Satterfield 149	2	....
Bingham-Satterfield 150	3	....
Bingham 1	2	....
Bingham 2	2	....
Riddle 1, 2 wells	Pressure	....
Smith 178	2	....
Burdick 04 and 013	Pressure	....
Park Estate & Co., Park 1	12	....
D. T. Andrus & Co., Bingham 1	17	....
J. A. Walters Est., Walters 12	8	....
Mary C. Reidy, Reidy 1	4	....
Forest Oil Corp., Fee 8 one bbl wells	8	....
Fee, 8 wells	Pressure	....
W. C. Kennedy Co., Kennedy 73	2	....
Kennedy 74	3	....
Kennedy 75	4	....
Dallas Oil Co., Ekas 2	7	....
Devore & Potter, Russell 2	4	....
F. E. Baldwin, Baldwin 14	5	....
N. V. V. Franchot, Campbell 10	12	....
BUTLER COUNTY—		
Neff & Co., Mulligan 4	¶1¼	....
Arthur Vensel, Vensel 1	2	....
W. S. Dixon, Burton Heirs 1	3	....
Sipes Bros., Sipes 9	2	....
BEAVER COUNTY—		
Laughner Oil Co., Economy 94	12	....
WESTMORELAND COUNTY—		
Phillips Gas & Oil Co., Levic 1	*	....
CENTER-MIDDLE FIELD—		
Reig & Hickey, Henry 11	8	....
J. Shomonskey, Shomonskey 30	2	....
ALLEGHENY COUNTY—		
Walley & Co., Carrell 2	7	....
Elizabeth Oil Co., Petrie 1	7	....
CLARION COUNTY—		
Alum Rock Gas Co., Hess 1	15	....
S. R. Lewis & Co., Coldheep 2	¶1	....
VENANGO COUNTY—		
South Penn Oil Co., Melford 24	2	....
Melford 25	2	....
Nelson & Johnson, Hovies 28	2	....
Corbett & White, Fee 11	2	....
Thomas McLaughlin, McLaughlin ..4	2	....

NEW YORK

Company, Well and Location	Initial Production Bbls.	Depth
ALLEGANY COUNTY—		
Leland Oil Co., Leland 2	3	....
Leland 3	10	....
J. W. Hughes & Co., Hughes 9	3	....
Luke & Staley, Kinley 4	3	....
N. V. V. Franchot, Brandel Hrs 9	3	....
F. N. Messer & Co., Dye 1	3	....
Macadam Oil Co., Macadum 1	3	....

WEST VIRGINIA

Company, Well and Location	Initial Production Bbbls	Depth
RITCHIE COUNTY—		
Hope Nat. Gas Co., Ayres 1	¶½	....
Maxwell & Co., Haymond 1	¶½	....
Pope Bros., Wilson 4	¶½	....
Carnegie Nat. Gas Co., Starkey 1..	¶¼	....
LINCOLN COUNTY—		
United Fuel Gas Co., Horse Creek Land 2559	¶½	....
Horse Creek Land 2563	¶½	....
Oxley 1921	¶½	....
GILMER COUNTY—		
McCall Drilling Co., Riddle Bros 5..	5	....
CALHOUN COUNTY—		
T. F. McIntosh, McCoy 3	¶¼	....

KENTUCKY

OHIO COUNTY—		
Jas. C. Ellis, Cundiff 8	40	....
Cundiff 9	40	....
Cundiff 10	50	....
Moseley 3	280	....
Dr. Sirman Co., Friendship School Lot 1	100	....
Engle, Berg & Co., Bartlett 1	100	....
Wood Oil Co., Inc., Mattox 7	10	....
Mattox 8	15	....
J. S. Patton, Renfrew 5	¶2	....
Newton Fields & Co., Hendricks 1	*	....
Sunnyvale O. & G. Co., Renfrew 8...	*	385
Arnold & Co., Baker Bros. 1	*	528
Fisher & Smith, Thomas 1	*	555
HANCOCK COUNTY—		
Maxey, Lewis & Co., Travis 1	25	540
CLAY COUNTY—		
Petroleum Explo. Co., Keith-Campbell 1	¶2	....
OWSLEY COUNTY—		
Petroleum Explo. Co., Caudill 1	¶1½	....
HARDIN COUNTY—		
Petroleum Explo. Co., Deckard 1	*	....
ALLEN COUNTY—		
Snowden-McSweeney Co., Oliver 35	*	466
WARREN COUNTY—		
Mc-Kinley-Randolph Supply Co., Travis 3	*	450
DAVIESS COUNTY—		
L. C. Young, Yeiser 7	55	....
L. C. Young, Yeiser 8	25	....
L. C. Young, Wm Yeiser 1	*	....
Hunt & Co., Walker 1	*	....
Imperial O. & G. Products Co., Hayden 5	12	....
J. C. Ellis, Anderson 2	2	....
McMahon & Dalghren, Fuqua 2	30	....
Fuqua 3	40	....
McHenry & Co., Neel 1 and 1	*	....
Eastern Gulf Oil Co., Ruby 4	30	....
McMahon 1	*	....
Whitmer O. & G. Co., Sutton 2	12	....
Huff & Calderwood, Sharp 1	*	....
McCandless 2	*	....
Jetsan Oil Co., Hinton 1	40	....
Creek Drlg Co., Tyler 8	*	....
Goldburg, Young & Co., May 1	*	....
Wood Oil Co., Inc., Tanner 2	*	....
M. B. French & Co., Howard 6	*	....
Daly, Lowman & Co., Borman 1	*	....

SOUTHEASTERN OHIO

WASHINGTON COUNTY—		
Herlan, Schramm & Co., Ward 9	*	....
Harris 1	¶¼	....
Shay-McMullen & Co., Hall 2	20	....
Burkhart & Co., Mendenhall 2	5	....
Crippen Oil Co., Patton 2	10	1088
Preston Oil Co., Walsh 2	5	603
Ohio Fuel Gas Co., Knock 6	¶½	1756
MONROE COUNTY—		
Stoffle Drlg Co., Stoffel 4	3	....
S. C. Hamilton & Co., Eichelberry 1	*	....
Roy Decker & Co., Burkhart 3	*	502
T. E. Walters & Co., Burkhart 5...	*	1445
Lucas & Thornberry, McElfresh 1..	¶½	1368
Edward Cunningham & Co., Crum 5	*	1735
NOBLE COUNTY—		
Local Oil Co., Wilkinson 1	¶¼	642

CENTRAL OHIO

PERRY COUNTY—		
Ohio Fuel Gas Co., Shoffel 1	192	2762
William Kline & Co., Burley-Winters 3	70	3748
Preston Oil Co., Crist 2	25	2803
Wehrle O. & G. Co., Hammond 2..	*	976
William Kline & Co., Ellenberger 1	*	3485
LICKING COUNTY—		
Pure Oil Co., Orr 2	31	3116
Hope Construction & Ref. Co., Rector 1	10	610
Settles Oil Co., Lethers 5	¶¼	795
Hulse & Kuntz, Cullison 1	3	830
Wittmer Properties, Tr., Martin 3	*	2863
ASHLAND COUNTY—		
W. J. Smith, Humm 1	25	....
Curtis & Co., Devault 7	20	....
Kemrow Co., Brubaker 1	¶1	2298
SUMMITT COUNTY—		
Columbia Chemical Co., Barber 2	*	3818
Zindel & Co., Chenoweth 1	*	4304
East Ohio Gas Co., Bliler 2	*	....
ATHENS COUNTY—		
C. D. Sloan & Co., Carnahan 7	*	....
Slade & Irwin, Niclison 2	*	1193
Mosure & Co., Phillips 2	*	976
MUSKINGUM COUNTY—		
Fetty & Lochery, Duff 1	1	1264
Hope Construction & Ref. Co., Brown 3	45	....
HOCKING COUNTY—		
Griffin Oil Co., Lowe 4	20	2955
Gordon Oil Co., Meldrum 3	*	2957
MEDINA COUNTY—		
Ohio Fuel Gas Co., Fritz 2	*	....
Preston Oil Co., Shaffer 1	12	....
COSHOCTON COUNTY—		
Ohio Fuel Gas Co., Epply 2	*	....
Ohio Oil Co., Eapley 2	2	727
MEIGS COUNTY—		
Davis Oil Co., Hysell 6	8	1905
BELMONT COUNTY—		
Preston Oil Co., Colpitts-Boswell 3..	3	1553
JACKSON COUNTY—		
Ohio Fuel Gas Co., Jones 3	¶½	2589
LORAIN COUNTY—		
Daugherty & Co., Clark 2	¶2½	....
CUYAHOGA COUNTY—		
L. M. McGrath, Conant 1	¶¼	....
WAYNE COUNTY—		
Ohio Fuel Gas Co., Wood 2	¶¾	....
RICHLAND COUNTY—		
Ohio Fuel Gas Co., Ohler 1	¶10¼	915
GALLIA COUNTY—		
Atha Drilling Co., Miller 1	¶¼	....

NORTHWESTERN OHIO

DRAKE COUNT—		
Cole O. & G. Co., Discher 20	8	1265
HANCOCK COUNTY—		
R. T. Rittenhouse & Co., Fried 6	50	1390
SENECA COUNTY—		
Banks & Co., Nightswander 1	¶¼	1478
MERCER COUNTY—		
Recovery Oil & Gas Co., Lilmarger 1	¶¼	1176

MICHIGAN

MUSKEGON COUNTY—		
Paragon Oil Co., Seboltz 1	1000	2019
F. S. Grimes & Co., Brand 1	600	2060
Reed Oil Co., Torrent 2	300	1625
Continental Motors Corp., Fee 6	100	1705
Muskegon Development Co., Myler 2	100	2055
Lima Oil Corp., Haight 3	*	1900
W. D. McMillan & Co., Ford 1	*	2095
OCEANA COUNTY—		
Edward DuVal & Co., Mears 2	*	1585

TEXAS

TEXAS PANHANDLE

COTTLE COUNTY—		
Skelly Oil Co., J. H. Cannon 1	*	4043
GRAY COUNTY—		
Skelly Oil Co., G. H. Saunders 3	5	2995
HUTCHINSON COUNTY—		
Amarillo Oil Co., R. A. Jameson 1..	20	3230
Deal et al, Johnson 2	¶40-5	3030
Phillips Pet Co., Burnett-Connell 1..	30	3121
Johnson-Trigg 1	60	3025
WHEELER COUNTY—		
Wisch Kamper et al, Fee 2	¶40	1505
Lone Star Gas Co., F. E. Shelton 1	¶55	1903

CENTRAL WEST TEXAS

BROWN COUNTY—		
Amerada Pet. Corp., Smith 1	*	1652
Brock & Switzer, Dunn 1	*	490
E. T. Green et al, Riordan 1	*	1257
H. Gutzman et al, Stanley 10	10	432
Lloyd Oil Corp., Collier 16	7	433
Paramount Oil Royalties, Mayes 3	Jkd	558
Young Bros.-Alexander and Woodley Pet. Co., Hickman 21	50	1255
CALLAHAN COUNTY—		
Bradstreet & Holden, Miller 11	60	1642
Reiter-Foster Oil Corp., Hatchett 8-A	15	354
COLEMAN COUNTY—		
Roth & Faurot, Sealy-Smith 4	*	3642
EASTLAND COUNTY—		
Lewis et al, Lyerla 2	15	1209
Y. L. Jones et al, Gattis 1	*	542
Jordan et al, Shamburger 1	*	1912
G. P. Mitcham et al, Weddington 1	*	1645
Southern Oil & Prod. Co., Thorp 1	¶3	1714
MILLS COUNTY—		
Whiteside et al, Taylor 1	*	1865
PALO PINTO COUNTY—		
T. G. Shaw-American Legion, Mosely 1	*	2473
SHACKELFORD COUNTY—		
Cranfill-Reynolds, Inc., Diller 2	*	915
Ohio-Texas Oil Co., Matthews 12	300	1153
STEPHENS COUNTY—		
The Texas Co., Gholson 15	*	4310

WEST TEXAS

HOWARD COUNTY—		
Greene O. & R. Co., H. R. Clay 6	75	1820
Gulf Prod. Co., H. R. Clay 5	80	1847
Howard County Oil Corp., Kloh 1	1000	2256
Owen-Sloan Co. and Cosden & Co., Roberts 8	1560	2980
Schermerhorn Oil Co., Roberts 3-A	1680	2960
WINKLER COUNTY—		
Atlantic Oil Prod. Co., Hendrick 7-E	5000	2745
Marland Prod. Co., Tobe Morton 2	1200	3011
Southern Crude & Westbrook, Hendrick 3-C-T-89	200	3010
Hendrick 3-E-T-89	80	2555
Hendrick 1-I-T-89	600	3114
Hendrick 1-J-T-89	2000	2920
Hendrick 5-D-T-88	10,000	2914
Hendrick 3-L-T-88	600	3036
Hendrick 5-K-T-88	3700	2788

NORTH TEXAS

ARCHER COUNTY—		
F. C. Grebin et al, Hennig 3	55	1428
Madden & Hunt, Richardson 16	55	1290
Rathke Oil Co., Wilson 5-A	5	1388
The Texas Co., Parkey 1	*	1851
COOKE COUNTY—		
W. E. Benson and Shell Pet. Corp., Ball 1	*	1578
Kewanee O. & G. Co., Timms 5-A	100	1208
ELECTRA—		
W. H. Hammon et al, McCarty 12	60	1491
T. F. Hunter et al, Waggoner Bros. 14	25	1745
HASKELL COUNTY—		
J. B. Hofmeier and Mel Boyles, Jetter 1	*	2722
Kouri & Shaheen, Reynolds 1	*	1826
JACK COUNTY—		
Bryson O. & G. Co., Dougherty 1	Jkd	460
Lindsey Drlg Co., Knox 1	*	2975
K-M-A and IOWA PARK—		
Carl B. Bailey et al, Munger 29	30	1767
Humble O. & R. Co., W. H. Taylor 12	120	1488
MONTAGUE COUNTY—		
Harris & Simmons, Maddox 5	25	854
Pure Oil Co., Maddox 8-D	30	850
The Texas Co., Gist 7-B	30	850
WILBARGER COUNTY—		
Beasley et al, Waggoner 1-B	*	2205
Fain-McGaha Oil Corp., Waggoner 30-S	130	2413
Lesh & McCall, Waggoner 1	*	2461
Phillips Pet. Co., Waggoner 1-N	10	2361
Waggoner-Anna 2	15	2330
Waggoner-Jennings 1	*	2505
Waggoner-3BBB	35	1911
Shaw Oil Co., Waggoner 3-E	200	2445
Staley-Wynne & Co., Waggoner 4-F	250	2415
Wanderer Oil Co., Waggoner 1	*	1940
YOUNG COUNTY—		
L. G. Bradstreet et al, Snider 2	10	586
Fain-McGaha Oil Corp., Campbell 1-I	*	950
Pennell Oil Co. and Walton, Birdwell-Hazzard 1	*	700
Prairie O. & G. Co., Kunkel 6	*	1203

SOUTHWEST TEXAS

SALT FLAT—		
Lang & Witherspoon, Golding 1	*	2690
Shell, Floyd Tiller 3	3100	2757
Moses 3	275	2706
Humble, Moses & Baggett 1-A	3200	2672
W. O. Allen 1	300	2698
Lutex Oil Co., Davis 6	*	2775
CEDAR CREEK—		
The Texas Co., Yost 2	600	1500
CALDWELL COUNTY—		
Jarmon et al, J. H. Jolly 1, Larremore dist.	*	1518

WALWORTH

Steeliron Body Double Disc Gate Valves
500 Lbs. Working Gas Pressure

These Valves are especially designed for use in gas pipe lines carrying pressures up to and including 500 pounds per square inch. They are made in sizes 14, 16, 18, 20 and 24 inches.

Furnished regularly in rising stem and non-rising stem types with spur gear operation and four-inch by-pass. These valves are available also without the by-pass and without the gearing if so desired.

Here are a few of the many points of merit in this Walworth gas valve that make it the outstanding leader in its field.

1. Two bearing support of pinion shaft on the spur gear operated valves.

2. Independent flange connection on the bypass makes it impossible for gas leakage to occur from one port opening to the other. This construction permits the removal of the by-pass by closing the connection with a pair of 4 x 10-inch blind flanges.

3. Through bolts employed for bolting the by-pass to the connections offer a distinct point of superiority over the use of studs to connect the by-pass to the body of the valve.

4. Yoke may be shifted 180 degrees so as to place operating hand-wheel on opposite side.

5. The minimum space occupied by these valves requires smaller pits for installation — an important economy item.

Two bronze wedges are used for spreading the discs. The stem is of rolled bronze and the seat rings and disc face rings are of hard bronze. The stem nut in the N. R. S. Valve also is of hard bronze. Body, bonnet, discs and yoke are of Steeliron, insuring strong and compact castings.

This and other members of the famous Walworth Double Disc Gate Valve Line for sale by

Republic Supply Company

GENERAL OFFICES - HOUSTON, TEXAS

OIL AND GAS WELL SUPPLIES

ROTARY AND CABLE TOOLS

From Canada to the Gulf of Mexico

The operations of our production, refining, transportation, (both oil and gas) and marketing divisions extend to fourteen states throughout this great middle- and southwestern territory, and Canada.

The result is a product that meets every climatic condition, every demand of business and pleasure, for the maximum of power and lubrication efficiency.

Our Cities Service KOOLMOTOR (Green Tinted) GASOLENE will prove this statement.

Empire Gas & Fuel Company

A Cities Service Company

BARTLESVILLE - - - - - - - - - - - - - OKLAHOMA

"A Complete Cycle in the Oil and Gas Industry"

Company, Well and Location	Initial Production Bbbls	Depth
DUVAL COUNTY—		
Humble, Kohler 12, Humble-Reiter-Foster pool	¶20	1747
JIM HOGG COUNTY—		
Randado Oil Corp., Palacios 31, Randado pool	130	1279
Palacios 32, Randado pool	65	1305
KLEBERG COUNTY—		
Humble, Flato 4, blk 10, sur 40, Kingsville	*	4810
WEBB COUNTY—		
W. O. Wheatley, Wheatley 1, Reiser pool, blk 3, sur 1569	*	2805
Beaven-Marts, Johnson 2, blk 10, sur 602, Reiser pool	*	1790
O. W. Killam, Bruni 1, blk 1, sur 5, Adams sub. Arispe Grt.	¶2	512
Bruni 5, sur 8	¶25	2326
Houston Oil Co., Benavides G-1, Cole field	¶40	2304
Union Explo. Co., Benavides 1, blk 3, sur 694	¶40	2326
EAST TEXAS		
ANGELINA COUNTY—		
Dan Harrison, Kimmey 1, 6 mi ne Lufkin	*	1540
LIMESTONE COUNTY—		
Pine Oak O. & G. Synd., Mary Forrest 1, J. C. Neil sur.	*	2850
HARRISON COUNTY (Waskom)—		
C. H. Lyons et al, Furrh 3, J. Short sur	¶1	2373
PANOLA COUNTY (Bethany)—		
D. Thomason, Crenshaw 12, B. C. Jordan sur	¶4	2700
Eureka Nat. Gas Corp., Gulley 2, Jas. Matthews sur	¶2	1863
S. H. Gardner et al, G. E. Brumble 4, B. C. Jordan sur	*	2712
Magnolia Pet. Co., T. C. Adams 2, Ezekiel Jones sur	¶1.8	1017
Magnolia Pet. Co., C. G. Steele 13, B. C. Jordan sur	¶5	2672
Texas Co., Adams A-8, B. C. Jordan sur	¶3	961
TEXAS GULF COAST		
BLUE RIDGE—		
Gulf, Invincible Oil Co. 6	1200	3560
L. W. Luscher 14	400	3530
BRENHAM—		
Lyne Oil Co., Hesse 11	5	255
CLAY CREEK—		
Sun Oil Co., J. Grote 1	700	1375
L. Marcus 1	*	3640
GOOSE CREEK—		
Gulf, Jno. Gilliard Fee 8, dd	80	1830
Humble, Jones-Stateland 10 dd	*	2640
HULL—		
Gulf, Phoenix Dev. Co. 68, dd	50	3250
Humble, Hooks-Spell 3, dd	200	3560
MOSS BLUFF—		
Humble, Sterling 3	*	3329
NASH DOME—		
Rycade, Wisdom 21	1000	4288
Wisdom 24	*	4328
PIERCE JUNCTION—		
Rio Bravo Oil Co., Settegast A-9	175	4500
Gulf, H. C. Cain 7	300	4550
E. R. Taylor 27	1000	3750
RACCOON BEND—		
Humble, Hardy 2	350	3256
REFUGIO—		
Mission Drlg. Co., Nellie Cummings 1, se side	700	3700
Houston Gulf Gas Co., O'Brien 4	gas	2420
Fox 1	*	4632
Lambert 1, n end of field	*	5211
W. L. Rea 3	¶50	3475
SOUTH LIBERTY—		
Sun Oil Co., Mitchell 34	*	1200
SPINDLE TOP—		
Yount-Lee Oil Co., McFaddin 92	1200	3400
Gladys City 78	1200	2525
SOUTH LOUISIANA		
HACKBERRY—		
Rycade Oil Corp., Humble-Gulf Land 1	50	4345
Yount-Lee Oil Co., Perkins 1	*	4585
Noble Oil Co., Porter Ellander 3	*	4455
Seiss, Green & Sutton, Sanner 1	800	3158
STARKS DOME—		
Gulf, Lutcher-Moore 6	65	4480
SULPHUR—		
Union Sulphur Co., Fee 735	*	6058
Fee 7 33	*	6105

at any point of contact

At any point of contact trained men, versed in the problems of the industry are ready and happy to serve you, whether it is in consulting with you about a ½hp. electric motor for a filling station, or a 500 hp. motor for a new pipe line installation; or whether it is about supplying water or gas for any of your operations.

General

Water Works & Electric Corp.

General Office
Fort Worth

Texas-Louisiana Power Co.
General Office
Fort Worth

Oklahoma Electric & Water Co.
Guymon, Okla.

Texas-New Mexico Power Co.
Winkler County, Texas

Texas Water Utilities Co.
General Office
Fort Worth

Breckenridge Water Co.
Breckenridge, Texas

Winchester Water Works Co.
Winchester, Ky.

Indiana Water Works Co.
District Office
Washington, Indiana

Boise Water Corp.
Boise, Idaho

Jersey Shore Water Co.
Jersey Shore, Pa.

Portage Water Co.
Portage, Pa.

Lloydell Water Co.
Lloydell, Pa.

Freeport Water Co.
Freeport, Pa.

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbbls	Depth
CADDO PARISH—		
W. D. Chew, Fee 8, 33-21-16	20	1850
OUACHITA PARISH—		
United Carbon Co., Nelson Fee 3, 6-19-5e	¶16	2139
RICHLAND PARISH—		
Richland Operating Co., Chapman 1, 19-16-7e	sw	2495
WEBSTER PARISH—		
Jones et al, Elkins 1, 33-23-9	*	2690

ARKANSAS

Company, Well and Location	Initial Production Bbbls	Depth
NEVADA COUNTY—		
Humble O. & R. Co., Groves B-5, 1-14-21	35	1140
OUACHITA COUNTY—		
Phillips Pet. Co., B. Joyce 20, 33-15-15	sw	3264
UNION COUNTY—		
Tharpe Drilling Co., List 1, 25-17-15	*	3050
E. C. Johnston, Tr., Gregory 3, 10-17-14	200	2786
Oil Well Corp., Kelly A-2, 9-17-14	324	2824

CALIFORNIA

Company, Well and Location	Initial Production Bbbls	Depth
KERN FRONT—		
Chanslor-Canfield Midway Oil Co., No. 22, 23-28-27	250	2210
The Texas Co., Midlands 9	150	2030
LONG BEACH—		
Continental Oil Co., Denio 1	1000	6350
Herndon Pet. Corp., No. 9	150	6341
Al Johnston, No. 1	1400	6584
Richfield Oil Co., Britsch 2	200	5990
Frye 4	300	5215
Shell Oil Co., Fee 5	2400	7675
SANTA FE SPRINGS—		
Associated Oil Co., Deewnter 6	2500	5295
General Pet. Corp., Santa Fe 204	5200	5885
Santa Fe 208	1500	5785
Santa Fe, 228	1000	5835
Santa Fe 229	6400	5895
Santa Fe 227	4200	5886
George F. Getty, Inc., No. 25	5100	5925
Richfield Oil Co., Wardman 1	2000	5794
Rio Grande Oil Co., Community 1	1800	5750
St. Helena Pet. Co., Ltd., Hill 1, wo	2100	5655
Superior Oil Co., Wardman 4	2000	2000
The Texas Co., Baldwin 3	4000	5295
Twin Bell Synd., Gros 5	3600	5055
Universal Consolidated Oil Co., Blanchard 9	2800	5655
SEAL BEACH—		
The Texas Co., Lovell 1	575	6582
VENTURA—		
Bolsa Chica Oil Corp., Hartman 2	200	7300

PERMITS GRANTED FOR NEW WELLS

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountin States:

	Week ending Feb. 16	Previous week	Total this month	Total this year	This week Last Yr.	This month 1928	1928 year total
Arkansas	1	3	7	21	3	9	331
California	23	54	116	216	21	71	1,207
Louisiana	8	14	42	91	10	29	680
Kansas	7	21	45	143	24	64	1,032
Oklahoma	37	62	171	442	50	161	3,744
Texas	120	165	518	1,113	173	401	8,297
Total	196	320	900	2,027	281	735	15,291

TEXAS

ARCHER COUNTY—Atlantic & Johnston, Dallas, Prideaux 1, 1860, T.E.&L. sur, 150 ft from s and 450 ft from e line. Gulf Prod. Co., Fort Worth, Alexander 2, S 22, G. P. Meade sur, 300 ft s of No. 1; Ward 2, J. Tomlinson sur, 2800 ft from w and 2000 ft from s line. Harry Hines, Wichita Falls, Helm 1, S 2, B 3, H.&T.C. sur, 1195 ft from n and 150 ft from e line. Barkley & Meadows & Riner & Bailey, Wichita Falls, Wilson 1C, Wm. Horritz sur, 450 ft from n and 400 ft from w line. Boller, Wichita Falls, F. C. S. L. 1, B 61, F.C.S.L. sur, 150 ft from w and 450 ft from s line. Humble, Wichita Falls, Hamilton 2, S 6, B.B. B.&C. sur, 750 ft from n and 150 ft from e line. Petroleum Prod. Co., Wichita Falls, Jeske 1, B.B.B.&C. sur, 150 ft from s and w lines.

ATASCOSA COUNTY—Amphion Oil Synd., San Antonio, Schlisser 1, S. B. Arnold sur, ne corner.

BROWN COUNTY—Greene Prod. Co., Fort Worth, Davis 2, S 4, S.A.&M.G. sur. E. T. Green, Box 35, Brownwood, Keardon 1, S 353, C. B. Jennings sur, 189 ft from n and 630 ft from e line. Crosscut Corp., Fort Worth, Newton 1, No. 141, R. Mitchell sur, 150 ft from s and w lines. Young Bros. & Alexander & Woodley Pet. Corp., Fort Worth, Armstrong 9, No. 151, P. Curlong sur, 600 ft e of No. 3; Hickman 21, No. 783, T. Benson sur, 600 ft s of No. 14.

BEXAR COUNTY — Schimmel Prod. Co., Fort Worth, Frees 2, B 2, C.E.P.L.&M. sur, 679 ft n of No. 1.

CALLAHAN COUNTY—W. L. Jackson et al, Burkett, Eubank 1, No. 181, C.C.S.L. sur, 150 ft from n and w lines. Gibson & Johnson, Abilene, Snyder 2B, S 139, B.B.B.&C. sur, 150 ft from n and 450 ft from w line. Moutray Oil Co., Abilene, Hatchett 14, S 30, D.&D. Asy., 150 ft from n and e lines; Hickman 36, S 149, B.B.B.&C. sur, 305 ft ne of No. 34. Wittmer O. & G. Properties, Pittsburgh, Penna., Williams 3, S 1, Blk. E, S.P. Ry. sur, 1800 ft from n and 1050 ft from w line.

COLEMAN COUNTY—Prairie O. & G. Co., Ranger, Logan 1, No. 631, H. Rhodes sur, 1350 ft from w and 150 ft from s line. Howard Samuell et al, Coleman, Malloch 1, No. 224, E. Votaw sur, 2002 ft from e and 150 ft from n line. B. D. Dozier, Box 624, Brownwood, Sears 1, No. 243, C. Shanks sur, 150 ft from w and 300 ft from s line. H. M. Curtis et al, Brownwood, Godwin 1, S 83, J. Faxall sur, 1170 ft from w and 150 ft from s line. Tower & McKanna Inc., Wichita Falls, Holmes 1, No. 739, A. Quigley sur, 450 ft from n and 150 ft from w line. Herbert Oil Co. of Texas, Fort Worth, Weaver 2, A. Gable sur, 150 ft from n and e lines.

CALDWELL COUNTY — Gulf Prod. Co., Houston, Wright A 2, G. Hinds sur, 750 ft from s and 150 ft from w line.; Allen-Tiller 3, G. Hinds sur, 300 ft e ond No. 2; Davis 4, A. Floyd sur, 350 ft n of No. 2. Humble, Houston, Gray 1, J. Hinds sur, 350 ft from s and w lines. M. O. Rayor, Luling, Robinett 1, M. G. Duke sur, 150 ft ne of center of sw line.

CHAMBERS COUNTY—Yount-Lee Oil Co., Beaumont, Chambers County Agricultural Co., 3, Wm. Bloodgood sur, 757 ft from w and 500 ft from n line; Chambers County Agricultural Co. 2, 50 ft from w and 500 ft from n line. Sun Oil Co., Beaumont, Chambers County Agricultural Co. 50, 1, Bloodgood sur, 400 ft from n and 50 ft from w line. Gulf Prod. Co., Houston, Fisher 2, 1, Wm. Bloodgood sur, 400 ft from n and 50 ft from e line.

COOKE COUNTY—Kewanee O. & Gas Co., Tulsa, Okla., Lanier B 2, E. T. Ry. sur, east central. Shell Pet. Corp., Wichita Falls, Dennis 3, T. J. Hutchinson sur, 150 ft from s and w lines.

CARSON COUNTY—Gulf Prod. Co., Fort Worth, Cooper 1, S 5, B 9, I.&G.N. sur, 330 ft from n and e lines.

CLAY COUNTY — J. G. Menke, Wichita Falls, Landrum 8, P.C.S.L. sur, 300 ft nw of No. 2.

DUVAL COUNTY — Humble, Houston, Kohler 18, No. 402, 160 ft from s and e lines; 19, No. 424, 160 ft from n and w lines; 20, No. 251, 165 ft from n and 2475 ft from e line.

EASTLAND COUNTY—E. R. Taylor, Dallas, Marshall 2, N. A. Moore sur, ne corner.

FORT BEND COUNTY—Navarro Oil Co., Houston, Davis 3, B 30, B Wickson sur, 205 ft from e and 60 ft from n line. Gulf Prod. Co., Houston, Wolf 4, No. 68, H.&T.C. sur, 400 ft se of No. 13.

FISHER COUNTY — Roeser & Pendleton, Inc., Albany, Haught 1, S 191, B 1, B.B.B.&C. sur, 440 ft from n and 1320 ft from w line.

GRAY COUNTY — Texas Co., Houston, Davis 6, S 86, B 3, I.&G.N. sur, 330 ft from n and 1650 ft from w line; Saunders 10, S 1, J. G. Eustis sur, se corner.

HOWARD COUNTY—Group I & Marland Oil Co., Big Springs, Settles 7, S 133, B 29, W.&N.W. sur, 330 ft from n and w lines. Coyle-Concord Oil Co., San Antonio, Roberts 6, S 156, B 29, W.&N.W. sur, 150 ft from e and 330 ft from n line. Marland Oil Co., Fort Worth, Clay 7, S 155, B 29, W.&N.W. sur, 990 ft from n and 330 ft from w line. Merrick & Lamb, Big Springs, Clay 7, S 126, B 29, W.&N.W. sur, 1534 ft from e and 250 ft from s line. Howard County Oil Corp., Big Springs, Kloh 2, S 5, B 32, Twp. 2s, 330 ft from n and e lines.

HARRIS COUNTY—Paxton & Pundt, Houston, Brown 1, Wooster Twste., center. Navarro Oil Co., Houston, Dooley 2, B 96, J. Hamilton sur, nw corner; Dooley 4, B 16, J. Hamilton sur, 50 ft from s and e lines. Humble, Houston, Simms-Smith 75, Wm. Scott sur, 2150 ft from s and 1300 ft from e line.

HUTCHINSON COUNTY—Marland Oil Co., Fort Worth, Johnson C 1, S 5, B 1, B.&B. sur, 450 ft from n and e lines. Texas Co., Fort Worth, Moore-Langdon 2, S 125, B 4, I.&G.N. usr, 990 ft from n and 330 ft from w line.

HARDIN COUNTY—East Batson Oil Co., Batson, Stateland 18, Copley sur, 171 ft from n and 37 ft from w line.

JEFFERSON COUNTY—Yount-Lee Oil Co., Beaumont, McFaddin 94, P. Humphreys sur, 557 ft from w and 828 ft from n line; Gladys 79, B 98, J. A. Veatch sur, 15 ft from w and 108 ft rom fs line; Gladys 80, B 99, J. A. Veatch sur, 15 ft from w and 18 ft from n line.

JIM HOGG COUNTY—Texas Co., Houston, Vela 1, No. 582, 1300 ft from w and 150 ft from s line.

LIBERTY COUNTY—Texas Co., Houston, Green 5, M. G. White sur, 945 ft from e and 350 ft from s line. Union Exploration Co., Houston, Esperson 2, C. W. Fisher sur, 2700 ft from W and 175 ft from s line.

LOVING COUNTY—Lockhart &Co., Colorado, Hazel 1, S 84, B 33, H.&T.C. sur, 2092 ft from e and 960 ft from s line; Wheat 101, S 85, B 33, H.&T.C. sur, 990 ft from s and e

Portable Power

THAT IS

Always Dependable

Cardwell-Keltner Allsteel Winches mounted on famous "Caterpillar" tractors have proven in the Field to be the most dependable portable power unit in existence.

FOR

PULLING RODS AND TUBING, ANY DEPTH . . . PULLING CASING FROM ANY DEPTH ABANDONED WELLS . . .

RUNNING STANDARD ROTARY RIGS WITH OR WITHOUT DRAWWORKS . . .

SPUDDING IN OR DRILLING UP TO 1000 FEET WITH STANDARD TOOLS . . .

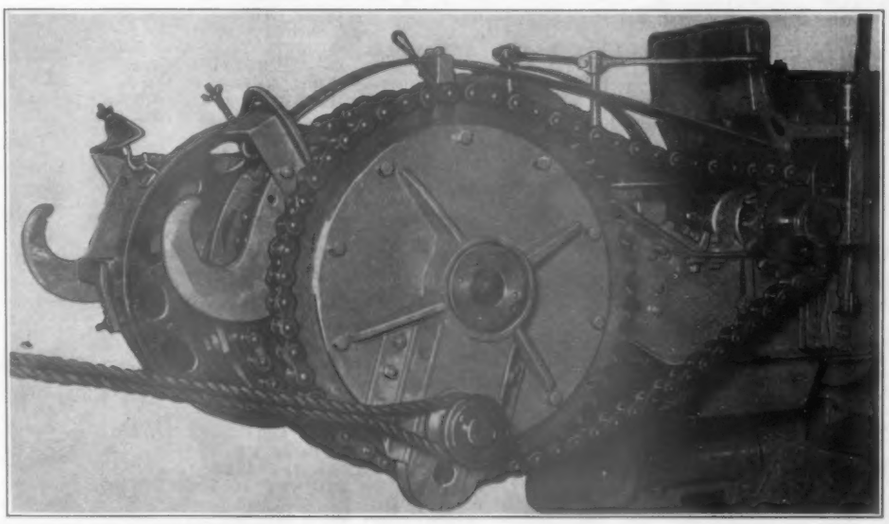
Mounted on Graham Brothers Truck for Quick Transportation.

Constructed Entirely of Steel

The Cardwell-Keltner Allsteel Winch has nothing but steel in it and no costly delays are the result of broken parts . . . Many are in the service of companies in the Mid-Continent fields with almost unheard of results and practically no broken parts.

The Spudding Attachment

This is also built entirely of steel and in emergency is capable of drilling a six or eight inch hole to 1000 or 1200 feet or spudding a big hole to comply with lease requirements when regular tools and power are not available . . .



THE ALLSTEEL PRODUCTS MFG. CO., Inc.

231 West English St. *There is a "Caterpillar" dealer in every country on the globe—Let us send you his name.* Wichita, Kansas, U. S. A.

lines; Hubbard 2, S 83, B 33, H.&T.C. sur, 1650 ft from ne and 330 ft from se line.

MONTAGUE COUNTY — Gulf Prod. Co., Fort Worth, Willett 1, S 95, K.C.S.L. sur, 1320 ft from n and 150 ft from e line; Kemp D 2, S 26, W.V.F.L. sur, 150 ft from s and e lines. Texas Co., Wichita Falls, Gist B 9, Wm. Donoho sur, 400 ft s of No. 7. Pure Oil Co., Fort Worth, Maddox D 9, J. C. Chambliss sur, 400 ft e of No. 8.

MILAM COUNTY—C. E. Bonwell, Milano, Booher 1, B. F. Swoap sur, 850 ft from n and 180 ft from w line.

MOORE COUNTY — Phillips Pet. Corp., Bartlesville, Okla., Taylor 1, S 244, B 3T, T.&N.O. sur, 330 ft from s and w lines. Amarillo Oil Co., & Canadian River Gas Co., Amarillo, Warrick A 2, S 92, B 46, H.&T.C. sur, 1320 ft from s and w lines.

MARION COUNTY — Trimount Pet. Co., Shreveport, La., Stiles 1A, N. Gupton sur, 500 ft from e and 250 ft from s line.

NUECES COUNTY—R. & G. Corp., Laredo, Perkins 1, W. W. Wright sur, 150 ft from w and 1920 ft from s line. R. A. Thompson, Corpus Christi, Bluntzer 1, Blk. 3, nw corner. Milam Drilling Co., Inc., San Antonio, Clift 1, S 197, Palo Alto sur, 450 ft from s and e lines.

PECOS COUNTY—M. W. Baden, Winfield, Kans., Trees 1, S 63, B 8, H.&G.N. sur, 330 ft from n and e lines of se¼. Mid-Kansas O. & G. Co., Tulsa, Okla., M. A. Smith 5, S 31, B 194, G.C.&S.F. sur, 6821 ft from w and 250 ft from n line; Yates B 28, S 61, B 1, I.&G.N. sur, 4106 ft from w and 811 ft from s line.

SHACKLEFORD COUNTY—J. D. Nordyke, Tulia, Fite 1, S 37, Univ. Lands sur, 450 ft from e and 150 ft from s line. Simms Oil Co., Dallas, Lones 6, S 64, B 11, T.&P. sur, 955 ft from n and 600 ft from w line. Humble, Wichita Falls, Davis A A4, S 4, B 13, T.&P. sur, 150 ft from s and 3770 ft from w line. Putnam Supply Co., Albany, Leschber 7, 546, T.E.&L. sur, 150 ft e of center of w line. Harry Shulman, Breckenridge, Green 1, S 1530, B 2, T.&N.E. sur, 150 ft from s and w lines. Sedwick Oil Co., Cisco, Dennis 18, S 15, L.A.L. sur, 300 ft w of No. 2. Petroleum Prod. Co., Wichita Falls, Davis 3, S 19, B 13, T.&P. sur, 150 ft from n and w lines. Roeser & Pendleton, Inc., Fort Worth, Matthews 1, S 56, E.T. Ry. sur, west central. Roeser & Pendleton, Inc., Fort Worth, Cook A9, S 83, E.T. Ry. sur, 405 ft of No. 5.

STEPHENS COUNTY—McDonald & Campbell et al, Dallas, Langford 1, S 54, B 6, T.&P. sur, 150 ft from s and e lines.

THROCKMORTON COUNTY—Herbert Oil Co. of Texas, Fort Worth, Reynolds 1, S 18, B 2, A.B.&M. sur, 400 ft from e and 150 ft from s line.

TAYLOR COUNTY—L. H. Wentz, Eastland, Armor 1, S 16, B 6, S.P. Ry. sur, 330 ft from e and 375 ft from s line.

WICHITA COUNTY—Gulf Prod. Co., Fort Worth, Kemp D 2, S 26, W.V.F.L. sur, 150 ft from s and e lines; Mitchell 3, J. T. Lewis sur, 300 ft n of No. 2. Magnolia Pet. Co., Dallas, Donohue 13, J. W. Robertson sur, 300 ft e of No. 11. Texas Co., Wichita Falls, Kemp-Allen 13, S 26, B 10, W.V.F.L. sur, 150 ft from s and w lines. Bruton & Harmon, Hale Center, Jackson 1, L. Wells sur, 450 ft from e and 1410 ft from s line. Humble, Wichita Falls, Taylor 14, S 81, W.V.F.L. sur, 303 ft n of No. 10. Curt Burddrus, Wichita Falls, Cole 58, 1, B 2, P.P.C.S.L. sur, 150 ft from s and e lines.

WILBARGER COUNTY—C. P. Burton, Wichita Falls, Waggoner I 1, S 40, M.E.P.&P. sur, center. Fain-McGaha Oil Corp., Wichita Falls, Waggoner AA 5, S 18, B 4, H.&T.C. sur, 150 ft from n anw 750 ft from w line. L. G. Bradstreet & Co., Wichita Falls, Waggoner B 1, S 42, M.E.P.&P. sur, 150 ft from s and e lines. Easter Oil Co., Wichita Falls, Waggoner B 2, S 39, M.E.P.&P. sur, 448 ft w of No. 1.

WINKLER COUNTY—Prairie O. & G. Co., Ranger, Scarborough 1, S 1, B 22cp, 301 ft from n and 330 ft from e line. Dixie & Southern Crude Oil Pur. Co., Wichita Falls, I. Hendrick C8, S 28, B B5, 2310 ft from n and 1650 ft from w line. American-Maracaibo Co., Fort Worth, I. Hendrick B 2, S 28, B B5, 330 ft s of center of n line. Texas-Canadian Oil Co., San Angelo, Kloh 1, S 35, B 46, Twp. 1n, 1320 ft from s and w lines. Humble, Wichita Falls, T. G. Hendrick C 9, S 10, B B12, 880 ft s of No. 4. Texon Oil & Land Co., Big Lake, T. G. Hendrick 2a, S 41, B B5.

WEBB COUNTY — Texas Co., Houston, Weeks-Wilder 1, S 683-690, 150 ft from n and w lines.

WHARTON COUNTY — Gulf Prod. Co., Houston, McCarson 11, S. F. Austin sur, 200 ft nw of No. 10. Sun Oil Co., Beaumont, Thomas 5, S. F. Austin sur, 100 ft se of No. 4.

WARD COUNTY — Gulf Prod. Co., Fort Worth, O'Brien 4, S 19, B F, G.&M. sur, 1320 ft from s and w lines.

YOUNG COUNTY—Moran & Smith, Wichita Falls, Hoffman 1, P. Averitt sur, 600 ft from s and 1350 ft from e line. Wooten & Reed, Graham, Stewart 1, S. Tynes sur, 450 ft from n and w lines. R. R. Rhodes, Graham, Ichelberger 2, 1449, T.E.&L. sur, 750 ft from e and 150 ft from n line. Steed & Gaus, Wichita Falls, Snider 12, R. Wilson sur, 810 ft from w and 450 ft from n line.

OKLAHOMA

CREEK COUNTY—Edgewood Oil Co., Johnson 5, nw se sw, 17-14-10e. Curtis, Tiger 1, se, 3-17-8e.

JEFFERSON COUNTY—Beck & Lapham, Seay 3, se sw, 34-6s-5w.

KAY COUNTY—R. A. Gibson, Gibson 1, c n½ sw, 7-28-1e. Industrial, School Land 4, ne sw sw sw, 36-28-1w.

MARSHALL COUNTY—W. W. Fleming et al, Null 1, csl ne nw, 24-5s-5e.

MUSKOGEE COUNTY—E. A. Smith et al, Maher 1, cse nw, 21-13-19e. Sioux Oil Co., Brown 1, nw ne ne, 19-13-19e. Joe Paul et al, James 5, ne sw sw, 17-14-17e. Grubbs & Young, Friday 3 (OWDD) cwl sw nw, 8-15-15e.

OKFUSKEE COUNTY—Sinclair, Micco 1, se nw sw (OWDD) 36-11-9e. Mid-Continent, Dendy "B" 1, ne sw ne, 31-11-11e. Mid-Continent, Rowe 1, nw ne, 33-10-9e.

OKLAHOMA COUNTY — Anderson & Pritchard, Hubelt 1, c sw ne, 2-11-3w. Wirt Franklin, Lowery 1, nw se nw, 12-11-3w.

OKMULGEE COUNTY—Aiken Oil Co. et al, Fox 10, cel se nw, 22-13-14e. J. Rebold et al, Haskins 5 (OWDD) cel nw ne, 22-13-12e. Shelden Oil Co., Baker 5, se sw se, 15-13-12e. Becker & Hutchinson, Berryhill 2, ne nw nw, 8-14-13e. Highland Oil Co., Barnett 7, se ne nw, 2-15-14e.

OSAGE COUNTY—Pioneer Pet. Co., No. 9 "B," nw ne sw, 5-20-21e. H. H. Mundy No. 2, nw se, 4-20-9e. Clint Moore Est. et al No. 22, se sw, 9-21-9e. A. G. Oliphant No. 2, sw se, 9-21-9e. Ray Branstetter No. 2, cel W½ e½ se, 22-22-11e. O. G. Oliphant No. 1, ne, 16-22-9e. Phillips, No. 3, se sw, 21-25-12e.

PAWNEE COUNTY—McMann et al, No. 1, nw sw se, 27-20-9e.

PONTOTOC COUNTY — Texas Pacific, Hutchins 5, nw se se, 19-5-8e.

POTTAWATOMIE COUNTY—Pure, Wallace 1, sw nw, 17-8-5e. Phillips, Wallace 2, nw sw, 17-8-5e. Gypsy, Miller 8, ne se, 18-8-5e. Mid-Continent, Shelton 4, se ne, 18-8-5.

SEMINOLE COUNTY—Texas Co., Jefferson 1a, ne se se, 23-5-7e. Barnsdall, Jackson 2, nw ne ne, 5-9-6e. Tidal, Nellie 4, se, 12-8-5e.

STEPHENS COUNTY—Lone Eagle Oil Co., Simpson 7, ne sw ne se, 34-1s-8w (OWDD).

CALIFORNIA

ELWOOD—Barnsdall Oil Co., Luton-Bell 6, 15-4-29.

HUNTINGTON BEACH—Western Drilling and Producing Co., No. 25, 10-6-11.

KERN COUNTY—Dollar Oil Co., Z. L. Phelps 1, 18-31-22. Richfield Oil Co., Boston 1, 20-28-28. C. C. M. Oil Co., No. 23, 23-28-27.

KINGS COUNTY—Shell Oil Company, Armstrong 1, 8-22-18.

LAWNDALE—San Clemente Oil Co., Peck 2, 20-3-14.

LONG BEACH—J. Orville Seeple, Seeple 6, 19-4-12. Graham-Loftus Oil Co., Rodgers 1, 24-4-13; American 1, 24-4-13.

MIDWAY—Standard Oil Co., No. 15, 29-31-24. Shell Oil Co., Perris 1-A, 15-32-23. Lincoln Drilling Co., No. 1, 18-32-23.

MONTEREY COUNTY — Shell Oil Co., Dudley 1, 15-22-9.

RINCON—C. C. M. Oil Co., Hobson B-7, 17-3-24. General Pet, Corp., Tomson 3, 8-3-24.

POTRERO—John A. Woodward, Thornton 1, 28-2-14.

ROUND MOUNTAIN—Shell Oil Co., Jewett 5, 29-28-29.

SANTA FE SPRINGS — Illuminating Pet. "Well No. 1," No. 1, 5-3-11. General Pet. Corp., Santa Fe 233, 5-3-11. McKeon Drilling Co., Santa Fe 4, 6-3-11. The Texas Co., Harvey 25, 13-3-21.

SOUTH MOUNTAIN—The Texas Co., Harvey 25, 13-3-21.

LOUISIANA

CAMERON PARISH—Moon Oil Co., Lake Charles, Raymond Saner 2, 28-12s-10w, 1642 ft n and 1345 ft e of sw c.

DE SOTO PARISH — Benedum-Trees Oil Co., Pittsburgh, Pa., Mahoney 1, 22-14n-12w, 1300 ft n and 1200 ft w of se c; Nicholson 1, 2-15n-14w, 820 ft n and 340 ft e of sw c.

LA FOURCHE PARISH — Union Sulphur Co., Sulphur, Dibert, Stark & Brown Co. Cypress 1, 70-15s-15e, 450 ft s of nw cor of sw nw and 50 ft e of w line.

NATCHITOCHES PARISH — S. D. McDaniel, Shreveport, Clark-Morse Lbr. Co. 2, 23-5n-6w, 350 ft n and 800 ft s of center.

OUACHITA PARISH — Magnolia, Shreveport, U. S. A. 2, 30-19n-5e, 660 ft n and 660 ft e of sw c se.

ST. MARTIN PARISH—Rycade Oil Corp., Houston, Bayou Bouillon 8, 19-9s-8e, 324 ft n and 2219 ft e of sw c.

WEBSTER PARISH — Nemours Corp., Shreveport, Munn Hrs. 2, 1-22n-10w, 2050 ft s and 1810 ft w of ne c.

ARKANSAS

Permits

UNION COUNTY—Standard Oil Co. of La., Shreveport, La., J. R. Burns 5, sw nw, 31-17-15.

KANSAS

BUTLER COUNTY—Empire, Brandenberger "A" 2, sw se ne, 22-27-5e.

COWLEY COUNTY—Kentucky Nitrogen & Oxygen Co., Sillibman 2, csl nw ne, 13-34-6e. Dutton & Gillespie, Boeger 1, sw se, 21-30-4e.

GREENWOOD COUNTY — Sheedy et al, Newman 2, ne sw se, 32-23-13e.

MARION COUNTY—Frank Moore, Miller 1, ne, 26-19-1e. McPherson et al, Converse 1, ne nw se, 29-21-2e. Howard & Stoddard, Skiles 1, se nw, 30-21-3e.

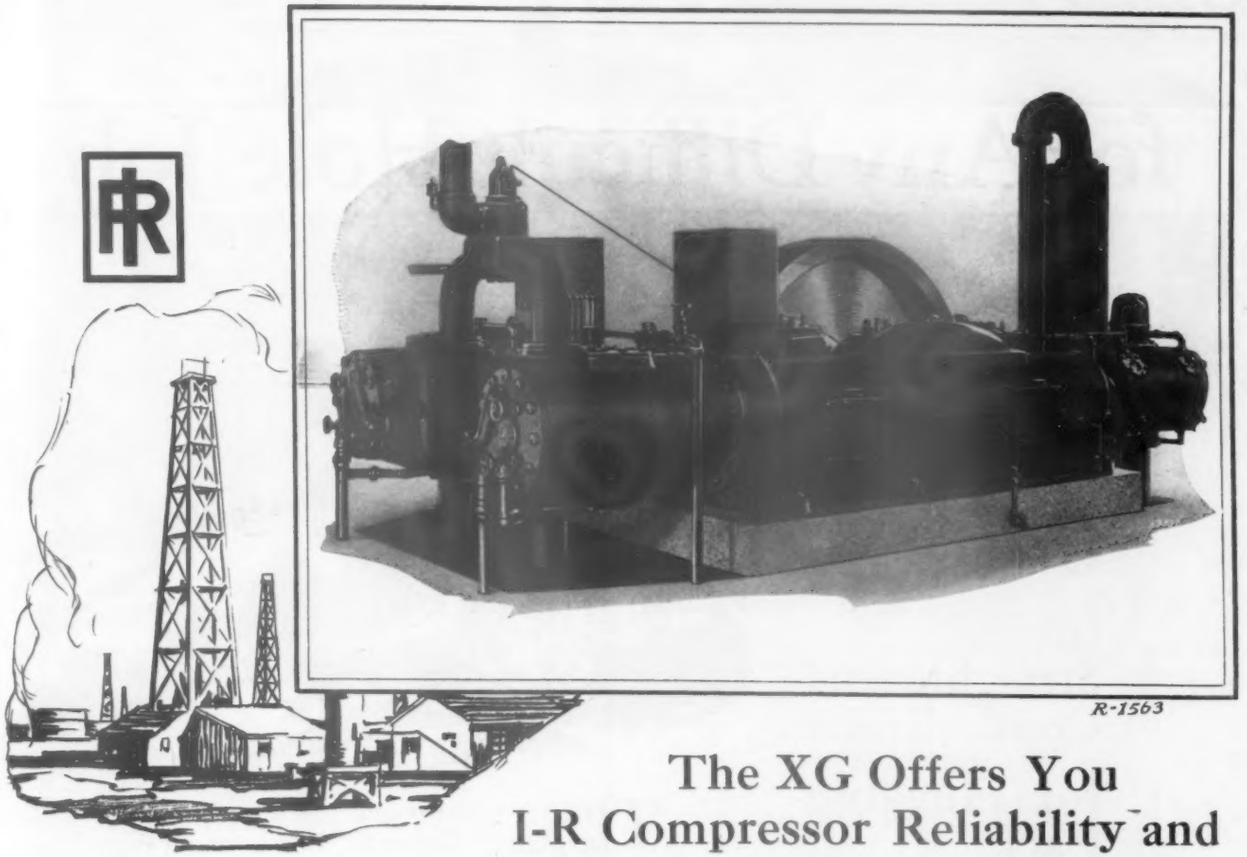
Move In Material for 3 Colorado Offset Tests

Pueblo, Colo. — Christy-McCormick-Frantz Syndicate is moving in material for three tests in the Vineland field on three sides of the Rozella discovery well. Another well in the locality is to be drilled by the Security Oil & Trust Company of Florence, and a third company to enter the region is composed of Denver capitalists. Wendell Brothers, it is said, have spotted location for two wells.

The Rozella Oil Company is running casing in its discovery well, and as soon as this is accomplished a test of the production will be made.

Casper, Wyo.—Officials of The Texas Company visiting in Casper last week were: R. C. Holmes, president; W. S. S. Rodgers, vice-president and director of sales; R. S. Ogarrio, vice-president and director of production; H. T. Klien, general counsel; G. A. Birmingham of Denver, manager of production interests; W. E. Bradford, Denver, manager of sales; E. E. Schreck, secretary to the president. Mrs. R. C. Holmes and Mrs. T. J. Donoghue were also of the party.

Vernal, Utah.—This community has granted a gas franchise to George C. Vance and H. B. Durham of Casper. A company is to be incorporated at once and a pipe line laid from the Vernal gas field which the new organization has recently purchased with all equipment. There are two producing gas wells which will produce more than 50 million feet in the aggregate in the field which lies 8½ miles southeast of Vernal.



R-1563

The XG Offers You I-R Compressor Reliability and Efficiency with Gas Engine Drive

This XG gas-engine-driven compressor has been developed under severe operating conditions that insure its reliability for oil field and refinery service.

The XG offers you the established dependability and efficiency of Ingersoll-Rand compressing cylinders, plus the fuel economy and other recognized advantages of a direct-connected 4-cycle power plant.

Other sailent features are:

- **Simplicity and accessibility**
- **Compactness (low foundation cost)**
- **Conservative rating (ample reserve power)**
- **Interchangeability of power end parts (small stock of spare parts required)**

These units are available for immediate delivery.

Branch Offices in the Oil Fields

Butte
Birmingham
Dallas
Denver
El Paso
Houston
Los Angeles
Mexico City
New Orleans
Pittsburgh
Salt Lake City
San Francisco
Seattle
St. Louis
Tulsa

Ingersoll-Rand Co., 11 Broadway, New York

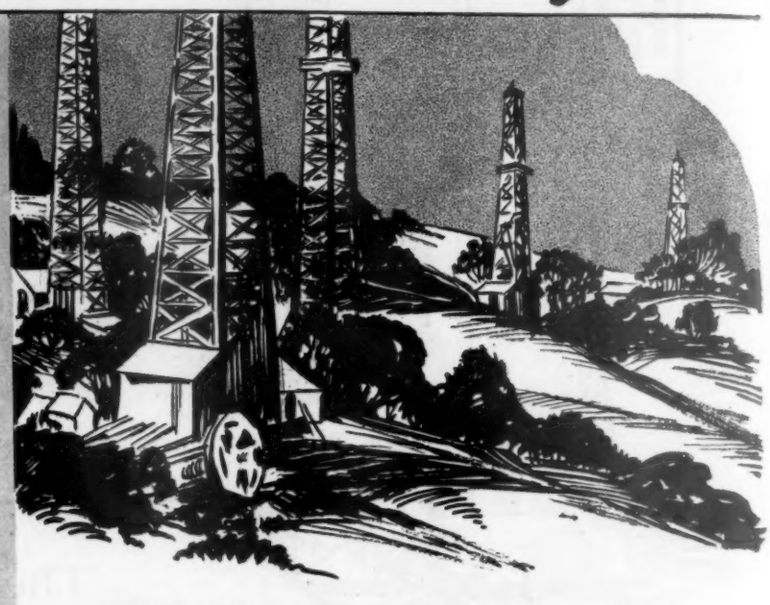
Branches or Distributors in Principal Cities the World Over

938-C

Ingersoll-Rand

Say you saw it in The OIL WEEKLY

for Any Difficult Hole Job



for Setting Casings

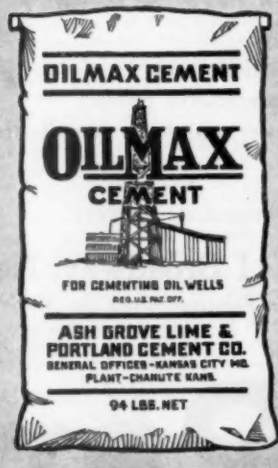
for Shutting Off Water

for Straightening CrookedHoles

for Plugging Back

for Cementing Off Lost Tools

for Filling Cave-ins



THERE never was a hole job too difficult for Oilmax Cement! It has more than made good under the most adverse conditions—saving time, labor, money for many large operators. Specially processed—used neat only—requires no accelerators or admixtures. And it gets *as hard* in 24 hours as Portland Cement in 10 days.

Set your casing today—resume drilling in 48 hours, *at the most!* No idle labor—no lost time—no useless equipment.

Oilmax hardens evenly—eliminates weak and soft spots. It is exceptionally plastic — slips quickly and easily — works in bailer or pump.

Oilmax is available through dealers. Packed in 5-ply paper bags. Shipped in mixed cars with Ash Grove Portland Cement. Write us if your dealer does not stock it.

Produced Only by
ASH GROVE LIME & PORTLAND CEMENT CO.
Founded in 1882
KANSAS CITY, MO. — OMAHA, NEBR.
District Sales Office: OKLAHOMA CITY, OKLA. Phone Maple 0642.

OILMAX CEMENT

293

WILDCATS FROM ALL SECTIONS

WEST TEXAS

Completions

Company, Well and Location	Initial Production Bbls.	Depth
COKE COUNTY—		
Louisiana Oil Ref. Corp., Powers 1	*	3777
DAWSON COUNTY—		
Magnolia Pet. Co., W. R. Jeter 1....	*	4339
MITCHELL COUNTY—		
E. P. Campbell & Co., Pond 1.....	*	3003
TAYLOR COUNTY—		
Burnham et al, Amyx 1	*	2327
TERRY COUNTY—		
Superior Oil Prod. Co., Brownfield 1	*	5080

ANDREWS COUNTY—Deep Rock Oil Co.'s Hostetter 1, elev 3224 ft, top salt 1890 ft, dr 2660 ft.

BORDEN COUNTY—Gibson-Johnson et al's Higginbotham 1, rig. Greene O&R Co.'s Slaughter 1, dr 385 ft. C. E. Hyde et al's H. D. Beal 1, rig. Teas & Wheeler's Long 1, lcn.

BREWSTER COUNTY—Ed W. Bateman & Co.'s Neville 1, dr 1890 ft. Brewster Oil Co.'s Fee 1, dr 480 ft. J. P. Johnson & Bert Weekly's Jackson-Harmon 1, lcn.

COKE COUNTY—Cates & Dennis' J. R. Mims 1, ur cas 1585 ft; Mims 2, spudded and sd. Mid-Kansas O&G Co.'s Lackey 1, sd 3050 ft. Lipan Oil Co.'s Rawlings 1, elev 1952 ft, sd 2900 ft.

CONCHO COUNTY—J. L. Duffey-Clark-McGee's Lovelace-Lockett 1, sd 660 ft. J. L. Duffey & Loofbourrow's Hill 1, set 6-inch cas 1715 ft. Lloyd Jones et al's Jones 1, sd 660 ft.

CRANE COUNTY — C. C. Duffey et al's Cowden 4, elev 2584 ft, top salt 710 ft, run tubing after shot with 1000 ft oil, td 2428 ft. Gulf Prod. Co.'s Waddell 6, top salt 1270 ft, dr 2455 ft.

CROCKETT COUNTY — Anderson & Williams' University 1, dr 2610 ft. Barbara Oil Co.'s Cox 1, elev 2051 ft, dr 1300 ft. W. W. Donnelly-W. A. Moncrief et al's Todd 1. (Sec. 35) spudded and sd; Todd 2, dr 600 ft. Ed. G. Lewis & W. T. Daniels' Pecos River Bed 1, spudded and sd. Tidal Oil Co.'s W. W. Weatherred 1, elev 2329 ft, top salt 485 ft, dr 675 ft. J. D. Wheeler et al's State Fee 1, sd 410 ft. W. W. Donnelly et al's Shannon 1, (Sec. 42) rig.

CULBERSON COUNTY — Deep Rock Oil Co. et al's Kloh 1, rig. Hickey et al's Finley 1, elev 3916 ft, sd 1740 ft.

JEFF DAVIS COUNTY—Sam F. Means et al's J. Z. Means 1, dr 3845 ft.

FISHER COUNTY—Bickerstaff et al's McWhirter 1, elev 1932 ft, sd 2000 ft. Cranfill-Reynolds & Sun Oil Co.'s Brown 1, elev 1846 ft, set 10-inch cas 2575 ft; Fleming 1, elev 1803 ft, dr 1860 ft; B. F. Willingham 2, elev 1803 ft, dr 990 ft. Gilman-McMurray & French's Cleveland 1, elev 1973 ft, set cas 685 ft. Culberson Bros. & Mesa Oil Co.'s A. J. Griffin 1, rig. J. B. Dunigan et al's Henry 1, elev 1913 ft. Hucony Gas Co.'s Marberry 1, elev 1876 ft, top lime 2960 ft, sd hfw 3250 ft. Landreth Prod. Corp.'s Cooper 1, elev 1825 ft, dr 1955 ft. Bob Rainey et al's Marberry 2, elev 1929 ft, top lime 2995 ft, sd 3507 ft. Roesser-Pendleton & Amerada's A. T. Haught 1, dk. I. E. Thompson & Greenwood's Newman 1, elev 1882 ft, top lime 2810 ft, dr hfw 3140 ft. The Texas Co. & Phillips Pet. Co.'s Hail 1, elev 2102 ft, rig.

GAINES COUNTY—Pure Oil Co.'s Williamson 1, elev 3197 ft, top salt 2333 ft, dr 3285 ft.

GARZA COUNTY—Emerald Oil Co.'s J. M. Boren 4, dr 1510 ft.

GLASSCOCK COUNTY—Fred L. Kyle & Chas. Daniels' Meek 1, elev 2792 ft, rig. Gibson-Johnson et al's Mann 1, elev 2703 ft, top salt 1170 ft, dr 2330 ft. McElreath & Suggett's Underwood 1, lcn. Meriwether Oil Co.'s McDowell 2, elev 2517 ft, top salt 970 ft, top lime 2445 ft, dr 2795 ft. Penn Oil Co. & Empire G&F Co.'s Hughes 1, elev 2733 ft, dr 2150 ft. White Eagle O&R Co.'s Dunbar 1, elev 2705 ft, top salt 1140 ft, top lime 2615 ft, dr 2730 ft. World Oil Co.'s McDowell 1-C, elev 2530 ft, sd 754 ft.

TOM GREEN COUNTY—F. P. Green et al's Fee 1, sd 1931 ft. Williams et al's Wilkey 1, spudding.

HOWARD COUNTY — Harrison et al's Dodge 1, sd 3257 ft. Phillips Pet. Co.'s Thomas 1, elev 2591 ft, top salt 1170 ft, top lime 3030 ft, dr 3950 ft.

HUDSPETH COUNTY — The California Co.'s University 1, elev 5833 ft, crooked hole 532 ft. Lockhart Bros. et al's Western States Fee 1, spudded and sd. Western States Oil Co.'s Gardner-Mosely 1, elev 5086 ft, sd 3155 ft; Moore 1, elev 5150 ft, sd 2760 ft.

IRION COUNTY — Fuhrman Pet. Corp.'s Sugg 1, Lse. 3, dr 465 ft. Kimbrough et al's Nut 1, elev 2299 ft, sd 1420 ft. Kimbrough & Flinchbaugh's Tankersley 1, elev 2241 ft, spudded and sd. Kingwood Oil Co.'s Sugg 1, elev 2334 ft, dr lime 5815 ft. Pecos Valley Oil Co.'s Joe Stock 1, set cas 460 ft. Signal Oil Co.'s Sugg 2, dr 610 ft. Sun Oil Co.'s Tankersley 1, elev 2254 ft, fsh 1137 ft. Webb et al's Nutt 1, elev 2351 ft, dr 3180 ft. Western Oil Co.'s H. Horney 1, co and rated 5 bbl pumper at 1225-26 ft.

JONES COUNTY—Culberson Bros. et al's Anderson 1, lcn. E. P. Campbell & Co.'s Herndon 2, dr 2140 ft. McClanahan et al's Hall 1, dr 1360 ft. McGinley-Sigler Co.'s Whittemore 1, sd 225 ft. McNeeley et al's Bland 1, spudded and sd. Mid-Sun Oil Corp.'s Hoehn 1, fsh 2385 ft. Milt Richardson-McGinley et al's Martin 1, sd 1300 ft. Roeser-Pendleton et al's Castle 1, dr 1230 ft. Sedgwick O&G Co.'s Brown 1, lcn; Routh 1, 760 ft. Tomberlin et al's Horn 1, spudded and sd.

KING COUNTY—Huff Oil Co.'s M. A. Martin 1, rig.

LOVING COUNTY — Lockhart & Co.'s Hazell 1, elev 2705 ft, rig; H. L. Lepp 1, dr 535 ft; Hubbard 1, elev 2706 ft, cem cas 538 ft; Hubbard 2, dk; Wheat-Lloyd 1-A, elev 2697 ft, top salt 715 ft, dr 3730 ft.

LYNN COUNTY—Hart Oil Corp. & McCamey's Edwards 1, elev 3128 ft, sd 800 ft. H. F. Miller et al's May 1, spudded and sd.

MENARD COUNTY—Carl G. Cromwell et al's Wilhelm 1, elev 2245 ft, dr 2075 ft.

MIDLAND COUNTY—O. H. Shoup et al's Parks 1, sd 4980 ft.

MITCHELL COUNTY — Clopton & Hammon's McKenzie 1, dk. Simms Oil Co.'s Ellwood 1, elev 2237 ft, rig burned, td 600 ft. Teas & Wheeler's Radford 1, elev 2223 ft, top salt 667 ft, top lime 1365 ft, dr 3665 ft.

NOLAN COUNTY—Bradstreet et al's Kuteman 1, rig. C. M. Root Drlg. Co.'s Simpson 1, dr 2645 ft. White Eagle O&R Co.'s Allyn 1, elev 2158 ft. showing water, dr 2942 ft.

PECOS COUNTY—Alexander-Lyles et al's Sellman 1, sd 1655 ft. Atlantic Oil Prod. Co.'s Sellman 1, elev 2751 ft, top salt 838 ft, top lime 1728 ft, dr 1830 ft. Benedum-Trees et al's Corder 1-A, elev 2713 ft, top lime 1840 ft, sd 3275 ft. M. H. Black et al's Pecos Land Co. Fee 1, lcn. Buell-Hagan et al's University 1-B, lcn. K. A. Crowley et al's R. G. Heiner 1, spudding. M. Z. Dibble et al's Bonebrake 1, elev 2544 ft, top salt 1874 ft, sd 2004 ft. Doran & McGee et al's Pecos Land Co. Fee 1, lcn. J. W. Grant et al's Turney 1, elev 2592 ft, top lime 1015 ft, dr 4190 ft. Grayburg Oil Co.'s University 1, elev 2725 ft, machine. Marland Prod. Co.'s Blakeslee 1, elev 2448 ft, dr 810 ft. McCarty Oil Co.'s A. A. Gray 1, elev 2524 ft, testing pay at 1162 ft with 32 deg gravity oil in hole. Mauch & Krogen's Holmes 1, elev 2325 ft, top salt 535 ft, sd 1010 ft. Pecos Valley Oil Co.'s Pecos Land Co. Fee 2, elev 2499 ft, top salt 1107 ft, flowing 100 bbls oil daily 1617-25 ft. Perren et al's H. J. Eaton 1, machine. Phillips Pet. Co.'s J. L. Nutt 2, elev 3112 ft, top salt 1720 ft, show oil 2562 ft, dr water sand 2630 ft. Schumaker et al's Williams 1, elev 2388 ft, dr 560 ft. Southern Crude Oil Purchasing Co.'s Scarbauer 1, elev 3680 ft, dr 3585 ft. Stien & McGee's Peterson 1, lcn. Talbot & Dittman et al's Unsicker 1, elev 2471 ft, show oil and gas, co 1365 ft. Transcontinental Oil Co.'s University 1, elev 2552 ft, top lime 1035 ft and 3315 ft, dr 4186 ft. Trees Oil Co. & Empire G&F Co.'s J. C. Trees 1, spudding. World Oil Co.'s Kloh 1, elev 2810 ft, sd 3105 ft.

PRESIDIO COUNTY—Brite Prod. Co.'s L. C. Brite 1, elev 4685 ft, plug back from 5156 ft to shoot show oil 4104-13 ft. Eastland et al's Tootle 1, spudded and sd. C. E. Miller-Delmar-Phillips Pet. Co.'s Tootle 1, cavey hole 2260 ft.

REAGAN COUNTY — The California Co.'s University 5, elev 2879 ft, top salt 1280 ft, dr 2680 ft. R. V. Oberholtzer et al's Talley 1, dk.

REEVES COUNTY—E. W. Brooks et al's Eddins 1, elev 2719 ft, top salt 1622 ft, top lime 3216 ft, sd 5658 ft. Exploration Co.'s Kinney 1, elev 2847 ft, sd 2900 ft. Penn Oil Co.'s Bowles 1, elev 2783 ft, top salt 1725 ft, set cas 2355 ft. Southern Crude & Dixie Oil Co.'s Kloh 1, rig. Lee O. White et al's Kloh 1, elev 3244 ft, spudded and sd.

RUNNELS COUNTY—G. W. Boyce et al's Lange 1, sd 1350 ft. Marland Prod. Co.'s A. Herring 1, dr 410 ft. Gene Mays et al's Currie 1, spudded and sd. Ira Nourse & Tilton's Cramer 1, elev 1775 ft, ur with hfw 2595 ft. Union Oil Co.'s Allen 1, dr 2915 ft.

SCHLEICHER COUNTY — Ft. McKavitt Oil Co.'s Tisdale 1, elev 2155 ft, sd 1535 ft. Interstate Explo. Co.'s Whitten 1, dr 645 ft.

SCURRY COUNTY—R. B. Pender & Dieckman's Davis 1, elev 2208 ft, top salt 445 ft, sd 1810 ft.

STERLING COUNTY — Foster-Gracey Oil Co.'s Foster 1, elev 2260 ft, dr 2055 ft. Miller Bros. et al's Foster 1, rig.

SUTTON COUNTY — Phillips Pet. Co.'s Holman 1, elev 2247 ft, top lime 2315 ft, fsh 5770 ft. L. G. Priest et al's Allison 1, dr 305 ft. Southern Crude & Dixie Oil Co.'s Allison 1, dr 1775 ft.

TAYLOR COUNTY — Grisham - Hunter Corp.'s Campbell 1, sd 1400 ft. Mid-Continent Pet. Corp.'s Taylor 1, elev 1933 ft, swabbing high gravity oil from sandy lime 2384-2461 ft. Thompson et al's Hammer 1, sd 1615 ft. L. H. Wentz et al's Armour 1, dr 655 ft.

TERRELL COUNTY—Milham Corp.'s Bassett 1, elev 2270 ft, dr 4600 ft. Keck-Pecos Oil Trust's Hamilton 1, elev 1733 ft, sd 1749 ft.

VAL VERDE COUNTY—Dyer Bros et al's Wilson 1, elev 2115 ft, dr 2705 ft. Producers Oil Co. et al's Everett 1, sd 1950 ft. Val Vert Oil Corp.'s Bassett 1-A, dr 3400 ft.

WARD COUNTY—Atlantic Oil Prod. Co. & Delmar Oil Co.'s Hayzlett 1, elev 2504 ft, top salt 715 ft, dr 2270 ft. Barstow O&G Co.'s Monroe-Gillespie 1, dr 260 ft. Gulf Prod. Co.'s G. W. O'Brien 4, rig. J-H-L Oil Co.'s Hayzlett 1, elev 2522 ft, top salt 792 ft, sd 1475 ft. Kemper Kimberlin et al's Thompson 1, lcn. Lovelace et al's Redman 1, spudded and sd. Rector Oil Co.'s Johnson 1, elev 2438 ft, top salt 745 ft, top lime 2010 ft, co 2596 ft.

WINKLER COUNTY — Gulf Prod. Co.'s Scarborough 1, elev 2953 ft, top salt 1210 ft, dr 2275 ft. Prairie O&G Co.'s Scarborough 1, rotary rig. Shell Pet. Corp. & Llano Oil Co.'s Scarborough 4, elev 2953 ft, top salt 1105 ft, dr 2230 ft; Scarborough 5, rig. Texas-Canadian Oil Co.'s Kloh 1, dr 555 ft.

YOAKUM COUNTY—Bert Weekly et al's Knight 1, dr 375 ft.

TEXAS GULF COAST

Completions

Company, Well and Location	Initial Production Bbls.	Depth
COLORADO COUNTY—		
Rich Oil Corp., Brun 1, 3 mi ne Columbus	*	1215
VICTORIA COUNTY—		
Humble, Kahutek 1, 1½ mi ne Nursery	*	603

AUSTIN COUNTY—Humble's R. Dietrich 2, Raccoon Bend, dr 362 ft sand and boulders; Hardy 2, Raccoon Bend, flowing 176 bbls every 12 hrs at 3256 ft; A. Grawunder C-1, Raccoon Bend, drlg out plug, td 3370 ft; Sherrill 1, Raccoon Bend, waiting on cement to set, td 1147 ft; J. C. Walton 2, Raccoon Bend, drlg out plug td 3272 ft; Urban 2, Raccoon Bend, waiting on rig, td 2327 ft; Urban 3, Raccoon Bend, dr 1397 ft sand and lime; Roy Thompson 3, Raccoon Bend, dr 212 ft rock; J. W. Wilson 1, Raccoon Bend, td 1210 ft drlg plug; E Kearns 2, Raccoon Bend, dr 1137 ft gbo; E. B. Wilson 3, Raccoon Bend, set surface cas at 56 ft; E. Ueckert 1, Raccoon Bend, dr 999 ft sandy

shale; Sanders 2, Raccoon Bend, drk; E. Grawunder D-1, Raccoon Bend, lcn.

BRAZORIS COUNTY—Meyer et al's Davidson 2, Clemens Dome, lcn. Shell Pet. Corp.'s Allen 5, Allen Dome, dr 4833 ft shale and lime; Reese 3, Allen Dome, cored shale at 4270 ft; Randon 1, Allen Dome, preparing to abandon. Empire G. & F. Co.'s Brock 2, Stratton Ridge, dr 3250 ft gbo.

CALHOUN COUNTY—Baker & Thompson's Thomas 1, 9 mi w Pt. Lavaca, td 2390 ft.

CHAMBERS COUNTY—Pure Oil Co.'s Mayes 1, Lost Lake, dr 1207 ft lime; Lost Lake 2, Lost Lake, prep to test oil show in sand and shale at 3566 ft; Gulf's Wilborn 1, Hankamer, dr 4475 ft gbo. Mills Bennet Prod. Co.'s Smith 2, Barbers Hill, e side, drk; E. W. Barber 1, Barbers Hill, ne side, dr 148 ft. Kirby 2, Barbers Hill, e side, dr 5724 ft hard sandy shale. Mills Bennett-Republic Prod. Co.'s Means 1, Barbers Hill, e side, dr sand and lime at 3568 ft. Humphreys Corp's Barber 1, Barbers Hill, e side, setting screen, td 4949 ft; Kirby B-6, Barbers Hill, e side, cemented 4¼-in at 5809 ft td. Mike Kouri's Shaw 1, Barbers Hill, e side, dr 1918 ft gbo. Joe Bashara's Tarbutton 1, Barbers Hill, e side, rebuilt drk. Sun Oil Co.'s Chambers County Agri Co. 1, Barbers Hill, sw side, ru; Gulf's Fisher 1, Barbers Hill, sw side, dr 365 ft sand. Cedar Bayou Oil Co.'s Fitzgerald 1, Barbers Hill, ne side, dr 298 ft. Yount-Lee Oil Co.'s Chambers Co. Agri. Co. 2, Barbers Hill, sw side, dr 2204 ft sand rock; Chambers County Agri. Co. 3, Barbers Hill, dr 1718 ft gbo. Richardson 3, Barbers Hill, sw side, td 2080 ft.

COLORADO COUNTY—Rich Oil Corp's Brun 1, 3 mi ne Columbus, abn 1215 ft. The Texas Co.'s Kveton 1, Cat Springs, dr 1270 ft gbo. Shell Pet. Corp.'s Neuendorff 1, 1 mi ne Bernado, ru. Humble's Herder A-1, Altair, dr 465 ft hard sand. Merrett et al's Zverck 1, 2 mi e Ellinger, sd 320 ft.

FAYETTE COUNTY—Phalen et al's Cervanca 1, 6 mi s La Grange, dr 3295 ft shale. Moore et al's Kerr 1, Muldoon, sd 2078 ft. National Oil Co.'s Melcher 1, Plum dr 1530 ft gbo.

FORT BEND COUNTY—Sun Oil Co.'s E. C. Farmer 4, Boling, waiting on cement, set cas at 3744 ft, oil sand at 3895 ft td; Rodgers 2, Boling, dr 3618 ft gbo. The Texas Co.'s Dippel B-1, Boling, dr 2795 ft gbo; Dippel A-1 Boling, dr 3576 ft gbo; Pleasants 1, Boling, ru, new lcn; E. C. Farmer 2, Boling, dr 947 ft sand and boulders; Wheat 4, Big Creek, pulling on stuck d. s. Gulf's Moore 18, Moore's Field, dr 2545 ft shale and gbo; L. Wolf 14, Long Point, dr 500 ft. Boling Dome Oil Corp.'s Armstrong 1, Boling, dr 3910 ft shale; Humble's Brazos Farm 2, Sugarland, dr 1068 ft rock; Brazos Farm 3, Sugarland, dr 1008 ft gbo; Brazos Farm 4, Sugarland, drk; Brazos Farm 5, Sugarland, lcn; Sugarland Industries 5, Sugarland, dr 1770 ft gbo; Deathridge 2, Sugarland, r 3758 ft; Nelson 1, Sugarland, came in flowing 200 bbls without yet having cleaned itself, td 3442 ft; Camp 2, Sugarland, dr 3100 ft shale; Bankers Mtge. 1, Sugarland, spudded. Gulf Prod. Co.'s Deathridge 1, Sugarland, lcn; Sugarland Industries' 1, Sugarland, lcn; South Tex. Exploration Co.'s Hartfield 1, Needville, dr 5340 ft sand and shale.

GALVESTON COUNTY—Long et al's Irvin & Bishop 1, 2 mi s Dickinson, sd 4322 ft. Republic Prod. Co.'s Lobit 1, 1 mi nw Dickinson, dr 4070 ft sandy shale and lime.

GOLIAD COUNTY—Booth & McCarson's Murry 1, B-11, Rge 3, Goliad, lcn. Alexander et al's Frame 1, 8 mi n Goliad, dr 692 ft gbo.

HARDIN COUNTY—Guedry Drlg. Co.'s Guedry 1, 3 mi s Batson, drk.

HARRIS COUNTY—Torsen et al's Stewart 1, 4 mi sw Genoa, sd 691 ft. Hunt et al's Lobit 1, 4 miles north Goose Creek, sd 2145 ft. Humble's Simms-Smith 75, Goose Creek, ru; Warren 5, Hockley, dr 2312 ft sandy shale; Minnetex 1, Myawa, td 5497 ft, set cas at 5400 ft. Paxton et al's Brubacker 1, 1 mi ne Clodine, sd 1125 ft. South Tex. Pet. Co.'s Hicks-Higbee 1, near Almeda, dr 3370 ft sand and lime; Morris 3, sw part of Humble field, dr 3334 ft sand and lime. The Texas Co.'s House 22, Humble, prep to dr plug, oil show in sand and shale at 4174-4203 ft; Stevenson 39, Humble, ru. Brains et al's Lentze 1, 4 mi s Tom Ball, sd 1120 ft.

JACKSON COUNTY—The Texas Co.'s Moore, 1, Edna, dr 3229 ft shale. Wright Bros'. Drushell 8, Edna, drk; Classen 2, Edna, dr 3945 ft shale showing oil.

JEFFERSON COUNTY—Deep Test Oil Corp.'s Faith McFaddin 1, 1¼ mi e of Spindle Top production, sd 3432 ft. J. W. Farhar et al's Rohwedder 1, 5 mi ne Beaumont, sd 2075 ft. Beaumont Oil Co.'s Tyrrell 1, 2 mi w Brooks, drk. Westbury Synd.'s West 1, 1 mi ne Westbury, dr 2740 ft gbo. River Oil Co.'s Ship Channel Ld. Co. 1, 2 mi se Beaumont, dr 940 ft gbo. Bleakie Oil Co.'s Tollivar 1, 2½ mi nw Voth, prep to set cas at 1560 ft. The Texas Co.'s Pipkin & Davis No. 1, Big Hill, dr 4655 ft sand and shale. Yount-Lee Oil Co.'s Nona Mills 1, 5 mi s Beaumont, ru Gulf's Thomas 11, Fannett, ru; Bordages A-7, Fannett, ru; Bordages A-6, ru to deepen.

LAVACA COUNTY—The Texas Co.'s Russeck 1, 6 mi s Ezell, dr 2800 ft hard sand.

LIBERTY COUNTY—Barlow et al's Hinchdliff 1, 2½ mi ne Cleveland, sd 2215 ft. Kouri et al's Campbell 1, 6 mi s Cleveland, sd 2000 ft. Big Dome Interests' Finley 2, 3 mi nw Hardin, drk. The Texas Co.'s Davis 2, Davis Hill, dr 1614 ft sticky shale. Humble's Sterling 3, Moss Bluff, abn at 3329 ft in salt. Sun Oil Co.'s Kovleika 1, N. Dayton, dr 4550 ft rock. Union Explo. Co.'s Esperson 2, 2 mi s Sheeks, dr 2325 ft sand and shale. Tan Bay Oil Co.'s Christian 1, 10 mi n Hardin, sd 1115 ft.

MATAGORDA COUNTY—Crossland et al's Hawkins 1, Shepherds Mott, dr 3340 ft shale and lime. Rycade Oil Corp.'s Kuntze 6, Markham, lcn. Dr. P. S. Griffith's Culver 1, e Citrus Grove, sd 3215 ft; Baer 1, 1½ mi n Gulf Hill, dr 1748 ft gbo. West Prod. Co.'s Meyers 1, Markham, ecn.

ORANGE COUNTY—Veteran Oil Co.'s Reed 1, 2 mi se Orange field, sd 2072 ft. The Texas Co.'s Kuhn 1, 4 mi e Spindle Top, dr 93 ft.

REFUGIO COUNTY—Blanco Oil Co.'s St. John 1, 3 mi nw Refugio, td 2250 ft. Davidson Horn's Howard 1, 3 mi sw Refugio, sd 1960 ft. Magnolia's Glenwinckle 1, 1 mi n Refugio field, dr 3220 ft gbo.

VICTORIA COUNTY—Humble's Kahutek 1, 1½ mi ne Nursery, abn 603 ft.

WALLER COUNTY—Dixie O. & G. Co.'s Brazos River State 1, San Felipe, sd 500 ft. The Texas Co.'s Young 1, 3 mi e Raccoon, ru.

WASHINGTON COUNTY—Sun Oil Co.'s J. Grote 1, Clay Creek, completed for 700 bbls at 1375 ft. J. Grote 2, Clay Creek, ru; L. Marcus, Clay Creek, abn at 3640 ft; C. H. Marcus 1, Clay Creek, prep to test sand at 950-1128 ft; Einman 1, Clay Creek, sd, td 2710 ft; C. Einman 2, Clay Creek, lcn; G. F. Grote 4, Clay Creek, lcn; G. F. Grote No. 5, Clay Creek, spudded. Davis et al's Seward 1, ½ mi n Independence, sd 1305 ft.

WHARTON COUNTY—Hearte Oil Co.'s Brown 1, 3 mi s El Campo, dr 1960 ft sand.

SOUTH LOUISIANA

ACADIA PARISH—E. F. Simms' Clement 1, Jennings, prep to sdtrk at 3872 ft; Clement 2, Jennings, sd 3840 ft; Grace von Schuler 1, Jennings, prep to sdtrk, td 5190 ft; Jennings Oil Co. 1, Jennings, sd 3545 ft; Cockrell 1, Jennings, sd 4330 ft; Cockrell 2, Jennings, dr 2680 ft sticky shale.

ASCENSION PARISH—Gulf's United Lands Co.'s 11, Sorrento Dome, dr 2090 ft sand; Belle Helene Sugar Co. 1, Darrow, lcn. Triumph Oil Corp.'s J. D. Lacey et al 2, mi se Sorrento, td 1350 ft. Burnside Oil Co.'s Roberts 1, td 920 ft. Big Dome Drlg & Dev Co. and J. S. Kimbrough's Rearwood 1, Sect. 82, td 1000 ft. Baton Rouge Pet. Co.'s Liotta 1, sd 1000 ft.

CALCASIEU PARISH—Union Sulphur Co.'s Fee 735, Sulphur, abn 6058 ft broken sand and lime; Fee 736. Sulphur, dr 4415 ft sand; Fee 739, Sulphur, dr 1885 ft rock; Fee 740, Sulphur, dr 5050 ft hard lime; Fee 741, Sulphur, tested dry at 2015 ft, will deepen. J. W. Watson et al's La. Land Co. 1, Sulphur, dr 5100 ft gbo.

CAMERON PARISH—Pure Oil Co.'s Yount-Lee 8, Sweet Lake, oil show in sand at 4457-75 ft, prep to set cas; Yount-Lee 7, Sweet Lake, sd 4594 ft. Calcasieu Oil Co.'s Doiron 5, E. Hackberry, dr 2890 ft gbo. Watkins 13, E. Hackberry, dr 3260 ft sand. The Texas Co.'s Calcasieu Lake B-4, E. Hackberry, bldg drk; Calcasieu Lake A-3, S. Calcasieu Lake, driving piling. Rycade Oil Corp.'s Gulf Land 1, Hackberry, prep to pump, estimated 50 bbls, td 4345 ft; Gulf Land 2, Hackberry, ru Yount-Lee Oil Co.'s Perkins 1, Hackberry, abn 4585 ft. R. Vincent 1, Hackberry, dr 3940 ft shale and lime; Saner 1, Cameron Oil Co.'s Duhon 3, Hackberry, dr 355 ft sand and gravel. Cameron Oil Co.-Rycade's Gulf Land 1, Hackberry, Noble Oil Co.'s Ellender 3, Hackberry, abn at 4455 ft in heaving shale. Cherokee Oil Co.'s Duhon 1, Hackberry, cor at 880 ft. Seiss, Green & Sutton's Sanner 1, Hackberry, completed for 800 bbls at 3158 ft; Sanner 2, Hackberry, lcn. Chas T. Madison's Duhon 1, Hackberry, dr 355 ft. Moon Oil Co.'s Saner 1, Shell's Watkins 6, Black Bayou, dr 2987 ft hard sand; Watkins 7, Black Bayou, coring lime at 936 ft.

IBERIA PARISH—The Texas Co.-La Land & Explo. Co.'s Vermllion Bay A-3, Vermilion Bay, dr 4175 ft rock. Gulf's Fannie Kling et al 3, Loreauville, dr 3150 ft lime; Moresi Co. et al's 1, Loreauville, dr 456 ft sand. Jefferson Lake Oil Co.'s Lake Peigneur 1, Jefferson Island, dr 786 ft limestone and sulphur.

IBERVILLE PARISH—Shell's Wilbert 3, White Castle dome, dr 3537 ft shale and lime. Standard of La's Wilbert 2, Bayou Blue dome, sect. 74, dredging to lcn; Wilbert 3, Bayou 3, Bayou Blue dome, lcn; Schwing 1, Bayou Blue dome, sandy shale, oil show, 3250 ft; Schwing 2, Bayou Blue dome, sect. 74-9s-10e, lcn. Union Sulphur Co.'s Schwing 3, Bayou des Glaise dome, sd 3675 ft.

JEFFERSON DAVIS PARISH—Vacuum Oil Co.'s Earl 1, Roanoke, spudded; De Viubiss 1, Roanoke district, dr 4875 ft water sand.

LA FOURCHE PARISH—Gulf's Stark 9, Thibodaux, ru. Union Sulphur Co.'s Dibert-Stark-Brown 1, Thibodaux, ru. Union Sulphur Co.'s Dibert-Stark-Brown 2, Thibodaux, lcn.

PLAQUEMINES PARISH—Gulf's Morris & Rose 1, Spanish Pass, 5 mi sw Venice, ru. The Texas Co.'s Garden Island Bay 1, 15 mi se Venice, bldg drk foundation.

POINTE COUPEE PARISH—Miller et al's Kornbacker 1, sd 1925 ft. Fruen et al's La Cour 1, ru and standing.

ST. JAMES PARISH—U. S. Mineral Dev Co.'s Reynaul Co. 1, sd 1720 ft.

ST. LANDRY PARISH—The Texas Co.'s Botany Bay Fee 1, Port Barre dome, waiting on cement to set, td 3765 ft.

ST. MARTIN PARISH—Rycade's State 3, Bayou Bouillon, dr 355 ft; Bayou Bouillon Fee 6, waiting on cement to set, td 2888 ft; Bayou Bouillon Fee 7, bldg drk; Bayou Bouillon Fee 8, dr 54 ft; Atchafalaya Fee 3, Bayou Bouillon, dr 4811 ft salt; Atchafalaya Fee 5, Bayou Bouillon, drk. Ohio Oil Co.'s Martin et al 3, Hager dome, dr 4265 ft hard shales; Burke 3, Hager dome, lcn. The Texas Co.'s St. Martin Land Co. 1, moving in. Yount-Lee Oil Co.'s La. Pet Co. 4, Anse la Butte, dr 2675 ft sand.

ST. MARY PARISH—J. Dannenbaum et al's Le Blue 1, Charenton, sd 3015 ft.

ST. TAMMANY PARISH—Pearl Oil Corp.'s Fritsche 1, Slidell, td 2020 ft.

TANGIPAHOA PARISH—Tanli Oil Co.'s Weinberger 2, sd 4050 ft. Joan Dev. Co.'s Lake Superior Piling Co. 1, td 220 ft.

TERREBONNE PARISH—Southern Gas Co.'s Peoples Sugar Co. 1, Houma, sd 2287 ft. The Texas Co.'s Lake Barre 1, sect. 37-21s-19e, moving in material; Lake Pelto B-1, sect. 8-23s-18e, moving in; Four Isle Bayou B-1, sect. 23-21s-16e, moving in; Timbalier Bayou A-1, sect. 19-23s-20e, moving in; Bay Coon Road B-1, sect. 17-22s-18e, moving in; Dog Lake Bayou A-1, sect 6-22s-16e, moving in.

SOUTHWEST TEXAS

Completions

BASTROP COUNTY—
Cranfill & Reynolds, Day 1, Cedar Creek townsite * 2025

CALDWELL COUNTY—
S. & M. Corp., Lynch 1, 5 mi e Lockhart * 2348

NORTH LOUISIANA

Completions

RICHLAND PARISH—
Richland Operating Co.'s Chapman 1, 19-16-7e ..... sw 2495

WEBSTER PARISH—
Jones et al's Elkins 1, 33-23-9..... * 2690

ARKANSAS

Completions

UNION COUNTY—
Tharpe Drilling Co., List 1, 25-17-15. * 3050

GOOD STEEL MAKES GOOD TOOLS

The Soaking Pits

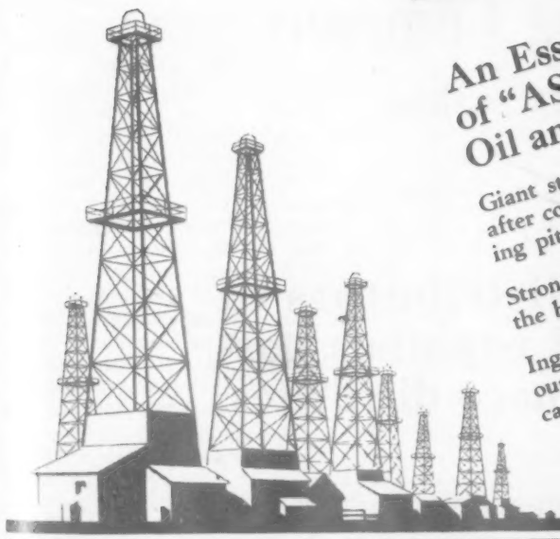
"A Story of Steel and Oil" is a historical sketch of the Petroleum Industry. Write for your copy today.

An Essential Factor in the Making of "ASCO Well Bit Tool Steel" for Oil and Gas Well Tools

Giant strippers lift the moulds from the steel ingots and after cooling in the air these ingots are carried to the soaking pits where they are heated to rolling temperature.

Strong fingered ingot cranes transport the heated ingot to the blooming mill tables.

Ingot temperatures are carefully recorded and checked by our metallurgists to assure uniformity in the best steel that can be produced for Oil and Gas Well Tools.



THE ANDREWS ASCO STEEL CO.
NEWPORT KENTUCKY

Say you saw it in The OIL WEEKLY

NORTHERN CALIFORNIA

Completions

KERN COUNTY—
Union's KCL-1, 5-10-21 ..... * 2335

KERN COUNTY

BUTTONWILLOW—Doheny-Stone Drilling Corp.'s Salisbury 1, 7-29-24, running 6¼-inch liner, td 4685 ft. Lincoln Drilling Co.'s 1, 6-28-23, sd 200 ft. Milham Exploration Co.'s Harris 1, 8-28-23, dr shale 900 ft. Richfield's Kerwin 1, 21-26-22, fsh for drill pipe 4760 ft; Redding 1, 36-27-23, rigging up.

COMANCHE POINT—W. W. Stabler's Tejon 1, 23-32-29, dr shale 3400 ft.

DELANO—S. A. Delzel's Vedder 1, 4-26-27, dr gray sand 3875 ft.

EDISON—Midway-Northern Oil Co.'s Brown 1, 29-29-30, dr 3550 ft. Symark Oil Co.'s 1, 24-29-29, dr gray sand 910 ft.

GOULD HILLS—Bomke and Ball's Larson 1, 19-29-20, dr shale and sand 2220 ft. Elmer Oil Co.'s 1, 2-29-20, dr 1425 ft. Exeter Oil Co.'s Pray 2, 1-29-20, pumping 15 bbls oil, td 870 ft. Ozena Oil Co.'s 1, 27-29-21, pumping 28 bbls, td 2930 ft.

KERN RIVER—Richfield's 1, 20-28-28, rig. H. H. Bell's 2, 6-28-28, new lcn.

RIO BRAVO—Pacific Coast Oil Co.'s 1, 15-19-25, rigging up. Elmer Oil Co.'s 1, 8-28-25, re-cemt fsh, sdtr 5050 ft.

SAN EMIDIO—Standard's 1, 35-11-22, sdtr 2535 ft, td 3780 ft.

SANTA BARBARA COUNTY

CARPENTERIA—Continental's Franklin 1, making production test, td 4000 ft.

GOLETA — Elwood Consolidated Oil Co.'s Reckar 1, 8-4-29, oil sand 3310 ft, will test.

ORELLA—Shell's Rutherford 1, 36-5-31, trying to losen drill pipe, td 1310 ft.

POINT CONCEPCION—Standard's Gerber 1, dr 200 ft.

SANTA BARBARA—Channell Oil and Development Co.'s 1, 29-4-27, co to bottom, td 6305 ft.

SANTA MARIA—Shell's Union Sugar 1, 36-10-35, sr 1960 ft.

TORTUGA CANYON—Standard's Schyvers 1, dr shale 1025 ft.

VENTURA COUNTY

CAMARILLO—American Oil Co.'s 1, 33-2-20, dr basalt 783 ft.

FILLMORE—Frank Oil Co.'s 1, 35-4-20, rigging up. Federal Oil Co.'s 1, 5-3-19, pulling 8⅝-inch cas, td 2950 ft. Sterling Supply Co.'s Elkins 1, 5-3-19, sd 3985 ft. Texas Co.'s Bernard 1, lcn.

CONEJO—Triunfo Oil Co.'s 1, 24-1-19, dr shale 500 ft.

OJAI—Continental's Fox 1-M, 21-4-22, dr shale 3618 ft; Thompson 1-A, dr shale 5020 ft. E. J. Miley's Casitas 2-A, 12-3-24, re-dr 700 ft.

PIRU—Pacific Western Oil Co.'s 5, 3-4-28, dr shale and shell 3275 ft.

SATICOY — Standard's Citrus 5, 10-2-22, loosening pipe, td 4655 ft.

SESPE—The Texas Co.'s 1, 2-3-19, new lcn.

SOUTH MOUNTAIN — Ring Pet. Corp.'s Converse 1, 23-3-21, co 4840 ft.

MISCELLANEOUS

FRESNO COUNTY—Currency Pet. Co.'s 1, 28-21-14, dr shale 1135 ft.

JOAQUIN RIDGE—K. C. L. Oil Co.'s 1, 7-19-15, rig.

KERMAN—Hornaday and Huggins' 1, 32-14-28, rig.

OIL CITY—Paragon Oil Co.'s 1, 17-19-15, rigging up.

MONTEREY COUNTY — Shell Oil Co.'s Dudley 1, 15-22-9, dr hard shale 210 ft.

MERCED COUNTY — Applegate and Renshaw's 1, 24-6-10, cmt 18-inch cas 2250 ft.

SAN LUIS OBISPO COUNTY—Dollar Oil Co.'s Phelps 1, 13-32-22, dr 200 ft. Holland and Kennebrew's Vishu 1, 22-32-22, redr 1700 ft. North Star Oil Co.'s 1, 11-22-28, fsh for dr pipe 2860 ft. Panorama Oil Co.'s 1, 7-31-21, repairing 6¼-inch cas, td 3420 ft. See Canyon Oil Co.'s 1, 18-31-12, dr shale 1125 ft. Texas Pacific Coal and Oil Co.'s Dutton 1, 25-32-14, dr shale 720 ft. Union's Russ 1, 34-32-15, redr 3075 ft; Chandler 1, 12-32-15, sr 2200 ft, td 2850 ft.

TULARE COUNTY—Angiola Development Co.'s 1, 27-22-23, dr gray sand 4200 ft. Big Four Drilling Co.'s 1, 29-23-27, co 4300 ft.

SOUTHERN CALIFORNIA

ATHENS—Burlingame Pet. Corp.'s Hamm 1, rigging rotary.

BELLEFLOWER — World Pet. Corp.'s Blythe 1, sd 5010 ft.

COSTA MESA—Mesa Pet. Corp.'s B. A. 1, co 3000 ft, td 3420 ft.

DOWNEY—Rio Grande Oil Co.'s Osborne 1, dr sandy shale 3460 ft.

FULLERTON—Shell's Stein 1, coring 6315 ft.

GARDEN GROVE—The Texas Co.'s Crawford 1, dr hard sand 3800 ft.

HUNTINGTON BEACH—Western Drilling and Producing Co.'s Pacific Ranch 1, fsh cmt, td 4435 ft; Meyer 1, lcn.

INGLEWOOD—California-Eastern Oil Co.'s Pollard 1, circulating bit, td 3750 ft. John A. Woodward Jr.'s 1, dr shale 1600 ft. Ring Pet. Co.'s Simons 1-A, dr shale 2100 ft.

MAYWOOD—Richfield's 1, dr shale 4366 ft.

NEWHALL — California-Eastern Oil Co.'s Hasley 1, trying to shutoff water, td 3300 ft.

POMONA—Pomona Oil Assn.'s 1, fsh for bit, td 975 ft.

PUENTE—Anchor Pet. Co.'s Hudson 1, sd 4820 ft. Richfield's Didier 1, cmt drilled out, water not shutoff, re-cmt, td 3435 ft.

RIVERSIDE COUNTY — Hall Pet. Co.'s Watt 1, fsh for bit 930 ft. Hemet Pet. Co.'s Ward 1, packer run to 1450 ft, td 3230 ft.

SAN BERNARDINO COUNTY—Mahala Oil and Gas Co.'s 1, perforating 6¼-inch cas from 3550 ft to 4000 ft.

SAN DIEGO COUNTY — Western Pacific Oil Co.'s 3, cmt 4¾-inch cas to test, td 3365 ft. S. S. Turner's Baler 1, dr shale 1650 ft.

IMPERIAL COUNTY—Imperial Valley Pet. Co.'s 1, 12½-inch cas cmt 1130 ft.

Anderson-Prichard Oil Corporation

—and—

Col-Tex Refining Company

Oklahoma City, Okla.

Manufacturers and distributors of high-grade industrial naphthas, gasolines, kerosene, furnace distillates, gas oils and fuel oils.

Refineries: **Cyril, Okla.; Colorado, Texas; Wichita Falls, Texas**

Modern Equipment in Roumanian Fields

(*Continued from page* 50)

in the Rumanian fields although some companies use gas. Operating costs for steam run high where oil is burned, but is very cheap when gas is used. Engines always use gas, never gasoline. The Superior seems to be the most popular and common type of engine on the market and is furnished in 25, 40 and 90 horsepower. It is used for bailing, pumping wells with plunger pumps, driving compressors and line pumps. The Astra and Staeua use practically all electrical equipment. Current is very expensive if purchased, but these companies have their own power stations. One hundred horsepower motor costs around 14,000 liei for a 24-hour day. The Rumano Americana have a power plant at Telagen. This has a 600 k.w. plant using Selzer gas engines and direct connected dynamos. The Astra plant at Moreni is the largest. It is a 14,000 k.w. with generators driven by steam turbines and gas. Staeua also has a large power plant at Campina.

A number of the drilling wells located close to the source and distribution of electric power are utilizing electric motors for drilling. Most of these motors are of German and Swiss manufacture, totally enclosed and gas proof. To date they have not been used with a rotary rig, but only with the slush percussion method of drilling and to bail. This power is secured principally from a subsidiary to the Steaua—the Prahova Riva. The power is stepped down from 10,000 volts on the main line to 500 volts in the field. These motors are used without reduction gear, but direct drive to the jack shaft.

The use of electricity for the production of crude oil was started as far back as 1900 in the Baku fields of Russia, according to literature compiled by the Department of the Interior. Its first use in the United States was in West Virginia in 1906.

Several of the larger companies have their own primary station, from which the current is carried to transformers located in proximity to the wells being pumped. In some cases, one bank of transformers will handle as many as 12 wells pumping on the beam, or any other production method which may be employed. The current is carried on 30 to 40 foot poles, which are ample for two three-phase circuits. Where motor lines are not carried on poles of the main distributing line, shorter poles may be used. Wire sizes are standard with those used in this country, No. 4 copper for the 11,000 volt circuits down to No. 1 for 440 volt. Provision is made for the safety features embodied in lightning rods and cutouts.

The electric motors are being used for pumps, compressors and in some cases on pulling jobs. Electric motors, in common with steam engines, give a maximum torque at zero speed and are therefore well suited for pulling rods and tubing. There is a considerable increase in power demand and a higher operating speed is essential on pulling jobs, as contrasted with a lower power demand and lower speed for pumping. For that reason most of the Swiss motors are similar to prominent makes manufactured in the United States, in that they are a two-speed, variable-speed induction motor. The lower horse power is used for pumping and the higher rating for pulling tubing and rods. These two-speed motors run from 10 to 25, 15 to 30 and 20 to 50 horsepower, with the 15 to 30 horsepower size most common.

The advantages claimed for electric motor installations are much the same as those claimed for their use in every oil field. Longer life of belts and less breakage of lines results from the smoothness of the motor drive. Considerable saving in labor and attention is also effected.

"Horse" Power

A quite common method of drilling production in Rumania up to recent date involved the use of horses for power. A wooden shaft is placed vertically, resting in timber bearings, the top being held in position by braces from the derrick, the bottom being flush with the ground. On the upper end of the shaft a flauge drum, 10 inches in diameter with a 12-to-20-inch face, is installed. On this drum is wound the wire line or manila rope used in bailing. A ten foot pole is inserted at the bottom of the shaft with a horse hitched to the outer end and driven around in a circular track, with the vertical shaft as a center. In this way the line is wound on the drum and the oil raised from the well in a bailer. After the bailer has reached the surface and dumped the oil into a tank, it is allowed to return to the bottom of the well by its own weight, unwinding the rope on the drum.

The common practice is the use of six-inch drill stem for the first 3000 feet and five-inch below 3600. Most holes are completed to approximately 4600 feet, three-inch drill pipe being used for any depth beyond. Surface casing is the stove-pipe variety, 22 to 27 inches in diameter. Some wells use the following sizes: starting with 18-inch then running 14-inch, 10-inch and finally stopping with 6¾-inch.

Cementing jobs are very similar to those employed in the United States, such as Halliburton or Perkins.

Rotary table sizes run from 22 to 28-inch, on account of the large stove-pipe casing which is set. Most of them are of the old type, not of the "make and break," although a few of these are now being installed. Skids are of wood, with semi-steel base machined on the bottom and bolted down.

Most of the rotary tables have a great deal of cast iron or semi-steel in their construction. Only one or two all-steel tables were seen. The majority of the tables are roller bearing equipped. As far as rotary tables are concerned, Rumania would be said to be approximately 75 per cent efficient. Most of the rotary swivels are the six-inch size, reduced to small drill pipe where necessary.

Where considerable gas is encountered, barrite is used. Mixing is accomplished in the regular mixer and circulation is maintained from the sump hole to the pumps. The mudding methods used in the United States are being adopted for use in Rumania.

In the handling of equipment, the Rumano Americana employs all American drilling superintendents, the Astra using Dutch, the remaining concerns Rumanians for the most part.

The Astra has one Hild type drive in operation, but this seems to be the only one in the field.

Probably 70 per cent of the drilling in the country is with the rotary, but the percentage is increasing rapidly. The Rumano Americana is operating 28 strings, with the other companies using a proportionate number. All the wells being drilled are offset.

Air and Gas Lift

From a production standpoint Rumanian operators are standardizing on the air and gas lift just as fast as they can be practically installed. Little, if any, plunger pump production is evident. It is doubtful if there are more than 100 plunger pumpers operating in the entire field. Of this number the Astra has 30, the Steaua Romano 20, the Phoenix 6 and the Rumano Americana 2, with the balance divided among the smaller producers.

Approximately 75 per cent of the pumps and fittings used are American made, with a preponderance of D. & B. and Axelson make. The pump sizes run two, 2½ and 3-inches, using the straight plunger only. Combination or cup plungers are apparently never run. The average life of a pump is limited to from four to six weeks due to a very fine sand of high abrasive action. Tight plunger fits are attempted but seldom achieved, inasmuch as most of the replacement fittings are home made. The number of unscrew jobs and the amount of oil slippage is a reflection on the quality of the home built material. The oil being pumped has, in addition to the sand, varying quantities of water and always a relatively high percentage of gas. No acid

or sulphur is present in the oil or emulsion. Below is given a table of viscosity, gravity and temperature which serves as an indication to the general run of the oil:

Field	Oil	Viscosity*	Temperature†	Crude Gravity
Moreni,	Meotic	1.5	32	36.0
	Dacic	1.6	26	53.6
Beacon,	Meotic	1.2	26	43.5
	Dacic	1.9	..	29.3
Runcu,	Meotic	1.2	24	42.8
Ceptura,	Meotic	1.8	22	35.2

*Engler 20 deg. †Temperature Centigrade. ‡Gravity A.P.I.

The majority of the oil is clean and has a low cut. Some of the earlier production was inclined to be tight with a 7.60 cut and 8.0 of water to the emulsion.

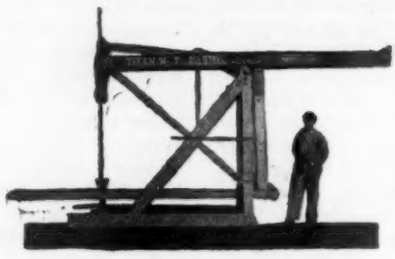
The sucker rods in use are entirely National, Oil Well and Axelson of the double pin and box type. The sizes used by the Astra and Rumano Americana are ⅞-inch in diameter and 20 feet in length. Little difficulty is experienced with sucker rods breaking where they are used on cable tool drilled wells, but several of the later holes made by rotary when it was first making its appearance in Rumania gave considerable difficulty. In fact the only way to pump these crooked holes has resolved itself into a matter of wire line and bailer. Bailer, by the way, is much more popular and more common in use than plunger pumping. Bailing has been developed to a fine point.

Illustrated elsewhere in this article is a closeup view of the derrick floor with the bailer coming out of the hole. Great care is taken in the construction of the dump head. The bailer itself is fitted with a conical plug which fits into the dump head. The plug is used to shut off the air so that the Roots Blower may draw off the gas through the pipe connection to head. The oil is run directly from the dump head to the separators and then into the storage tank. Most of the gas is conserved for use in power units or run through an absorption plant. It is safe to say that 80 per cent of the Rumanian wells which are bailing or pumping operate on the beam. There are no gas engines used for pumping power at the Rumano Americana, and Creduli Miniere use steam; the Steaua and Astra are practically standardized on electric motor drive. At the present time the Astra has six Lufkin pumping jacks, while the Steaua operates three and the Rumano Americana on eextra heavy duty type. Rumano Americana expects to put in more jack units and will use 25 horsepower Superiors to drive them as soon as they are installed. Surface equipment is all of standard design and weight. Some of it is rather antiquated but is far superior to any seen by the writer in other European fields.

The average pumping depth runs from 1790 feet to 3100 feet. The production varies a great deal, but on the Astra leases it is safe to say that the minimum is a two-car well or roughly, 140 barrels, while the maximum would be around seven cars, or 490 barrels. The average on all the Rumano Americana leases for bailers and pumpers is about 160 barrels per day. Horsepower required runs from 20 to 25, whether steam, gas or electricity is used. Most of the wells operate on a 20 to 30 r. p. m. basis with a 60- to 72-inch stroke. The length of the pump is either seven or nine feet, not including standing valve extension. In the Baicoi field there are a great many jack wells operated by steam power. For the deep wells, however, in the Ceptura and Moreni fields, industrial pumping powers are being used or will be installed.

Great Falls, Mont.—An interesting development in the Pondera field in northern Montana was the million-foot showing of gas which was encountered in the producing sand of the Midwest Refining Company's State 16, NE Section 16-27-4w, at 2016 feet. This is unusual because most of the wells completed in the field have shown but little gas pressure. Midwest Refining Company is completing Copley 34, also, and both wells are thought to be average producers, although they are not completed yet.

There are 103 completed wells in the Pondera field. There are 20 active tests, six drilling, four rigs up, and three standing cemented. The weather has moderated sufficiently to permit more steady operation.



—and how!

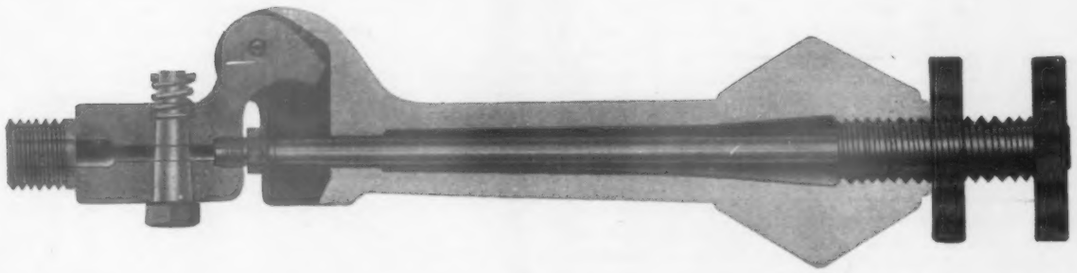
If you want an untiring giant with a mighty arm and a long reach to stand over your deepest wells and raise vast quantities of fluid without hestitation or cessation or fatigue, let us tell you about our Titan No. 7 Straight Lift Jack, heavyweight champion of the world. You buy him, body and soul, for a song, and he works faithfully without rations or pay. His steady, easy-going strength injects new efficiency and economy into your whole producing plan. Send for literature on the Jensen line, including the new Electric Jack.

JENSEN BROS. MFG. CO.
COFFEYVILLE, KANSAS
Export Office: 136 Liberty St., N. Y.

JENSEN JACKS

A N N O U N C I N G

A new *Shaffer Specialty Company product*



The DEAN SAFETY BOILER GAUGE COCK

INCORPORATES an entirely new safety feature, consisting of a shut off valve that closes the hole in the boiler connection and prevents the escape of steam or water when replacing valve seat.

Has but one wearing part, the Valve Seat Plug, which will last indefinitely but can be replaced at very low cost. Valve stem made of non-corrosive steel, adjustable for obtaining a complete shut-off. Handle weighted and balanced to provide proper pressure on valve seat. Lubrication is provided by a reservoir of hard oil in the tubular handle, Particularly effective in overcoming bad water difficulties.

Price $3.00

THE SHAFFER SPECIALTY CO

PATENTED OIL WELL EQUIPMENT

SHAFFER PRODUCTS *"are precision made"*

Factory & General Offices: 113-115 South Denver, Tulsa, Oklahoma
P. O. Box 1434 Telephone 7271

Redevelopment of Long Beach Gives California Production Boost

(Continued from page 130)

tion will be northwest of the discovery well, probably leading into the City of Inglewood. All other fields lying along the Newport-Beverly Hills fault line have assumed the northwest-southeast trend and there is little likelihood that Potrero will be an exception. Due to the extremely high gravity of the oil, the field may become an important producer during 1929; although there is a better chance that only a limited amount of drilling will be done.

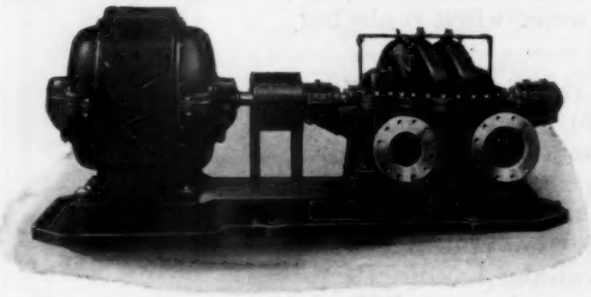
Elwood

The discovery of the Elwood field in Santa Barbara County was by far the outstanding development of a generation in this part of the state. The discovery well came in flowing about 2500 barrels of 38 gravity oil and was first considered a freak. Such oil in such quantities was something new for this part of the country. A 60-day test showed the true possibilities of the new field and a second well was drilled. Initial production of the second well was almost twice that of the first, proving without a doubt that the field was one to be reckoned with. Two more wells were drilled and the settled production of the four was more than 15,000 barrels. The field rapidly passed the doubtful stage and was recognized as a major pool. Water, which had caused much trouble in other fields in Santa Barbara County, failed to make its appearance in Elwood and the greatest of all the many worries was over. The new field is located on the Pacific Ocean, near a paved highway and only a stone's throw from a railroad. The oil is finding its way to market and the field seems destined to become one of the most important in Northern California. It is controlled almost exclusively by the discoverers and will be drilled in a conservative manner. A large part of the structure apparently lies out in the Pacific Ocean. The field is a comparatively small one, unless surface indications and unsuccessful tests drilled within a mile of the discovery well prove deceptive.

Kettleman Hills

By far the most sensational development of the year was the discovery of the Kettleman Hills field in Kings County. The discovery well blew out while being redrilled at 7108 feet and finally was brought under control after two weeks The initial gauge showed a potential production of 5000 barrels of 60.6 gravity oil —something unheard of in California and the largest well of its kind ever completed in any oil field. With only one small gas trap, production ran above 2500 barrels. It required five traps to handle the well and even after a huge waste for several weeks, production increased to 4800 barrels, with fully 1000 barrels escaping with the gas which could not be handled. California is noted for and has prospered on what is termed heavy oil in other parts of the country.

Experts were skeptical and refused to accept the Kettleman Hills field as a bona fide discovery for several weeks. Such a large production of 60.6 gravity oil in California sounded so unreasonable that it was passed up as a freak at the best. The larger companies holding acreage on the structure finally cast aside their prejudices, however, and made several locations. Fortunately, the land is held in big blocks, one company controlling more than 30,000 acres and others holding several thousand acres each. An agreement was reached

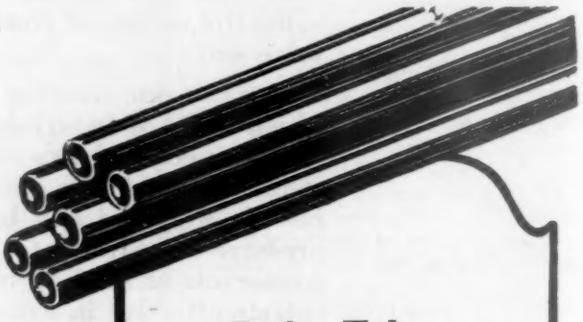


An 8" 3-Stage Type "R" Frederick Pump
Direct Connected to Motor

For Centrifugal Pump information in the mid-continent field consult—

DAN T. MOORE
2701 Esperson Building
HOUSTON - - - TEXAS
Dallas Office—730 Allen Bldg.

FREDERICK PUMPS
THE FREDERICK IRON & STEEL CO. FREDERICK, MD.



TYLER

Boiler Tubes

Charcoal Iron
for bad water conditions—

Lapweld Steel
for good water conditions—

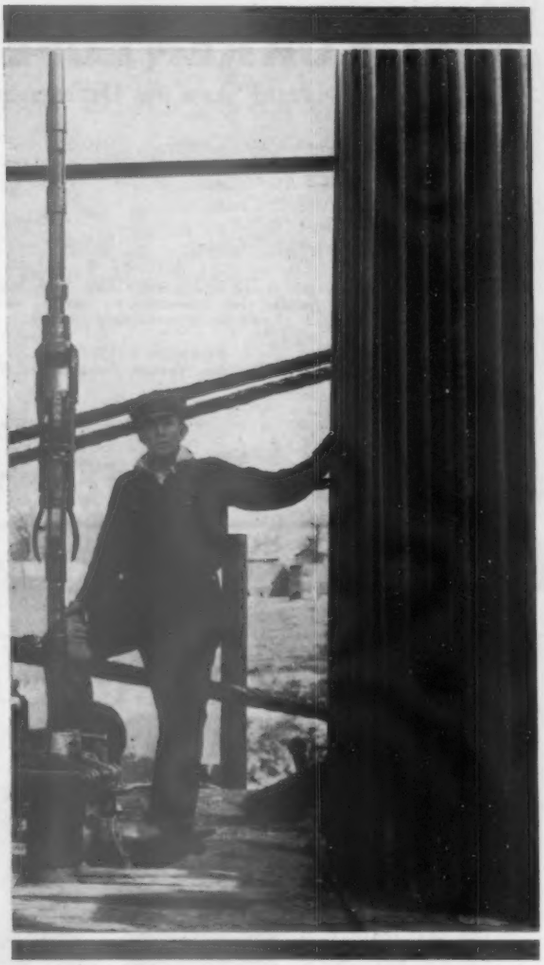
For long tube life.

The Tyler Tube & Pipe Co.
Washington, Pa.

Texas Stock—Harrisburg Pipe and Pipe Bending Co., Houston, Texas

Oklahoma Stock—Harrisburg Supply Co., Tulsa, Oklahoma.

"IF IT'S WORTH DRILLING FOR IT'S WORTH SAVING"



WHICH WOULD YOU PREFER?

–EVER READY PROTECTOR–

and its 12 point production-protection

1. Complete Protection, All Ways.
2. Perforated pipe and working barrel can be raised or lowered without tubing job.
3. No anchor necessary.
4. May be placed in string at any desired point.
5. Tubing is free to move up or down limited distance without disturbing protector.
6. Tubing can be carried on protector.
7. Operator controls drop of tubing.
8. Correct spot for pumping can be found in one installation of tubing.
9. Saves tubing by eliminating need of anchor.
10. Minimizes sand agitation.
11. Insures maximum production.
12. Saves pulling costs.

SMITH SEPARATOR COMPANY

Tulsa *Okla.*

Export Office: 30 Church St., New York

HOUSTON FORT WORTH SHREVEPORT LOS ANGELES

BUY OR RENT USED PIPE

and Save the Difference

15,000′—5-3/16″ Casing	50,000′—2″ Line Pipe
10,000′— 6⅝″ Casing	50,000′—3″ Line Pipe
5,000′— 8¼″ Casing	20,000′—4″ Line Pipe
5,000′—10″ Casing	15,000′—6″ Line Pipe
1,000′—12½″ Casing	5,000′—8″ Line Pipe
1,000′—15½″ Casing	

We will rent this casing or any other pipe which you may need. Let us finance your operations by carrying your pipe and casing investment for you.

BRANCH STORES
Wichita Falls, Holliday, Vernon, Breckenridge, Pampa, Tex.

EASTERN HEADQUARTERS
Butler, Penna.

Keystone Pipe & Supply Co.

HOLMES BUILDING
FORT WORTH, TEXAS

A HIGH PRESSURE PUMP By

VIKING

Made in 50, 100 and 200 gallon per minute capacities.

Mfr'd by
VIKING PUMP CO.

Extra heavy construction throughout—equipped with ball bearings,—insuring smoother operation and less wear.

The friction clutch as illustrated above enables the pump to be accelerated smoothly and evenly.

SOUTHERN ENGINE & PUMP COMPANY
HOUSTON, TEXAS

NATIONAL PETROLEUM ENGINEERING COMPANY
Engineers & Geologists
TULSA, OKLAHOMA

APPRAISALS
REPORTS-COMMERCIAL & TAX

SURVEYS
ESTIMATES OF OIL RESERVES

AN EXPERIENCED OIL FIELD ORGANIZATION

whereby not more than 32 wells will be drilled on each section. Even at this rate, the field will care for several hundred wells. Surface indications show three anticlines, but only additional drilling will disclose this feature.

Kettleman Hills will not be a serious menace during 1929, but there is every reason to believe that the field will become one of the most important in California within two years. The discovery well may develop into a freak, but its remarkable consistency does not indicate such a possibility. The well is sometimes regarded as a gasser which condenses into gasoline when the product is trapped, but this theory is held chiefly by those who have never been in the new field. The oil is almost white and burns freely when used as gasoline in cars. It contains about 90 per cent. gasoline and no heavy fractions. A production of 100,000 barrels from this field would care for the bulk of the gasoline needs of the entire state.

Fruitvale

Something entirely new in oil fields was demonstrated in the discovery of the Frutivale field, just outside of Bakersfield. This structure lies about five miles out in the San Joaquin Valley and severely jolted the theory that only the fringe of hills along the edge of the valley would be productive. Located on an almost flat plain, the field is a typical valley structure and makes other fields possible. The discovery well was a small pumper, but the completion of a 2600-barrel flowing well demonstrated that much should be expected of the field. The oil falls in the heavy class but contains a good percentage of gasoline. The Fruitvale field will not be an important market factor during 1929, but it will be heard from when the heavier oils are needed.

Mt. Poso

The Mt. Poso district was active during the year and three small fields were discovered along the upthrow of a major fault running through the district. This area offers many advantages, although the oil is heavy and does not contain a high percentage of gasoline. Production is found at very shallow depths and the entire district lies only a few miles from ideal transportation facilities. Little work was done in the Round Mountain field during the year. The field is controlled by a few companies and underground storage is considered by them as more economical than producing the oil when it is not needed.

Midway

Starting out with a rush, deep sand development in the Midway district reached a low ebb before the end of the year. The discovery of a new zone promised to increase production rapidly and to place a new valuation on leases over a wide area, but the sand apparently lacked uniformity and some of the operators lost their enthusiasm. Nothing sensational is expected of the Midway field during 1929.

Rincon

Rincon, discovered late in 1927, was one of the keenest disappointments in the state. The upper sand failed to yield more than 5000 barrels daily, while the deep

McMAN OIL & GAS COMPANY

PRODUCERS of CRUDE OIL

AND

MANUFACTURERS of NATURAL GASOLINE

General Offices:

P. O. BOX 712 TULSA, OKLAHOMA

A remarkable oil for blending

No. 96 GOLDEN

Characteristics:

High Flash — High Fire — Low Cold Test — Low Carbon Content — Good Demulsibility — Viscosity 80-90 at 210° F. — Pale Color — Priced Right.

Outstanding Purity— High Flash and Fire

For every conceivable purpose where a heavy blending oil is required, Sun No. 96 has no superior.

Enormous production facilities enable us to sell this superior product at a price below the value of its high quality.

Write for Booklet, Mixing Charts and full particulars.

SUN OILS **Sun Oil Co., Philadelphia**

Thirty Sales Branches in Principal Cities.

sand found around 6500 feet was a total failure. Water was a constant source of worry and prevented the inclusion of a thick body of sand. The field seems to have passed the threatening stage and little will be heard of it during the next year.

Ventura

The inauguration of a conservation program in the Ventura field held production down several thousand barrels and reduced the gas wastage to a minimum. Many large wells were completed, but they were pro-rated after a 30-day test. The field was extended a short distance southward by the completion of a good well just outside the City of Ventura.

By bringing the necessary pressure to bear, more than 75,000 barrels of heavy oil was shut in, placing the entire industry on a sounder footing. This was one of the outstanding achievements of its kind and was brought about by the realization that a continuation of a large production of heavy oil could only place the market in a weaker condition. Operators in the Kern Flat field broke away and started producing all line wells, but the other fields remained partially shut in.

Wildcatting in Northern California showed a slight loss during the year, due to the activity in the critical fields in the Los Angeles basin and the abandonment of several promising tests.

The number of wildcat operations in Southern California showed a slight shrinkage, but the major companies started several important tests in the Los Angeles Basin. Associated Oil Company at Downey, The Texas Company at Garden Grove, Richfield Oil Company at Maywood and at Puente, Western Drilling and Producing Company at Huntington Beach and the Rio Grande Oil Company at Downey, included the most interesting new tests of the year in the Los Angeles Basin.

Production in California during 1928 hovered around 625,000 barrels during the greater part of the year, but climbed rapidly to 700,000 barrels in December. The peak during 1929 probably will not exceed 800,000 barrels, with an average production not to exceed 750,000 barrels.

Carpenteria

Carpenteria, Calif.—The discovery of a thick body of gas sand and streaks of oil sand in the Continental Oil Company's Franklin 1, near this place, is regarded as a favorable indication that another field may be opened with deeper drilling. The company has completely closed all sources of information concerning the status of the well, but it is known that a string of casing will be cemented for a test of a sand found above 4000 feet. The well was drilled with electric power, but a steam outfit is now being installed. The well is located near the ocean and its successful completion would fill in a gap along the coast between Rincon and Elwood. Like both of these proven fields, the Carpenteria structure would be a wedge-shaped dome, part ofwhich would lie under the Pacific Ocean. The gas pressure became so great in the well that it was necessary to use hematite to prevent a blowout.

Oil Men Named on Board Pennsylvania College

State College, Pa.—Advisory boards made up of men experienced in the oil and natural gas industries have recently been appointed for the school of mines and metallurgy at Pennsylvania State College. The chief purpose of these advisory boards is to secure applied research and investigation that will conserve and better utilize natural resources and promote better efficiency in the industry as well as to strive for a fundamental education.

Members of the petroleum board from Western Pennsylvania are: R. J. Alexander, secretary, Pennsylvania Grade Crude Oil Association, Oil City; A. E. Booth, president, Northwestern Pennsylvania Oil Producers' Association, Bradford; W. J. Brundred, president, Brundred Oil Company, Oil City; R. M. Haskell, general manager, Associated Producers, Bradford; C. N. Pfohl, Kendall Refining Company, Bradford; S. Y. Ramage, president, First National Bank, Oil City; R. T. Zook, president, Sloan and Zook Company, Bradford; and W. T. Piper, president, Piper and Lloyd Company, Bradford.

The natural gas board is made up of the following members: S. W. Meale, president, Carnegie Natural Gas Company; G. W. Ratcliffe, president, Manufacturers Light and Heat Company; F. F. Schauer, general manager, Equitable Gas Company; J. B. Tomkin, vice-president, Peoples Natural Gas Company; and L. W. Young, Jr., president, South Penn Oil Company, all of Pittsburgh.

Coleman Wildcat Well Has Oil and Gas Flowing

Coleman, Texas.—Herbert Oil Company, McDonald & Campbell's wildcat test on the L. Weaver land, located about seven miles east of Coleman, developed a flow of 250 barrels of 44 gravity oil with 600,000 cubic feet of gas late last week from sand at 1823½-30 feet. This producer is located in the southeast corner of Lot 9, Andrew Gabel survey No. 271, Abstract 226, and is about one mile west of a completed gasser in the same horizon. It is about equal distance east of a small pumper completed more than one year ago by Broderick & Calvert, Fort Worth operators, in sand at 1899-1906 feet. The latter test was drilled to its contract depth of 2000 feet, and plugged back for completion. Broderick & Calvert own leases on aproximately 1,500 acres surrounding the lease bearing the new completion on all sides, and are starting an offset test. Shell Petroleum Corporation is moving in machine to drill a southeast offset to the new producer, and Herbert et al will offset the latter new location. Prairie Pipe Line Company has connected with the well to purchase the oil.

Treat CUT OIL with TRET-O-LITE

the SIMPLEST MOST ECONOMICAL MOST RAPID METHOD

The Tret-O-lite Process is a fundamentally simple and direct method of correcting the chemical condition present in "cut oil". Treatment with Tret-O-lite causes the petroleum and water to separate *quickly* and *completely*. Cost of treatment is exceedingly low. Let us send our nearest field expert to see you.

Process Patented

WM. S. BARNICKEL & CO.
St. Louis, Mo.
Offices and Plant:
Webster Groves, St. Louis County, Mo.

Over 6,000,000 Feet of

Jones High Manganese Sucker Rods

Now In Use

"THE WORLD'S BEST SUCKER ROD"

The S. M. Jones Co.
Toledo, Ohio

TULSA, OKLA. OFFICE: 422-423 McBIRNEY BUILDING

During 1928 more OK SUPER-OIL-WELL CEMENT was used in the Mid-continent than all other brands combined. This fact is significant.

OKLAHOMA PORTLAND CEMENT COMPANY
1018 PERRINE BUILDING OKLAHOMA CITY.

CONTINENTAL NATIONAL BANK

—*a thoughtfully managed bank*

Fort Worth — Strategically located for the transaction of business in all of the oil fields of the Southwest.

Continental National Bank — The bank that you hear frequently referred to as "The Oil Bank in Fort Worth."

Soliciting the Accounts of Individuals, Firms and Corporations of Recognized Standing in the Oil Industry

HEYDRICK'S NEW MAPS
WEST TEXAS
County Maps
Combination Maps
Descriptions and prices on application
HEYDRICK MAPPING COMPANY
Wichita Falls, Texas

Southern Blue Print & Supply Co.
Complete Blue Printing Service
Photostating; Map Mounting
Lithoprint Reproduction; Supplies
510½ Travis St. Houston, Texas

PATENTS
Patents Obtained and Trade Marks and Copyrights Registered
HARDWAY & CATHEY
428-29-30 Bankers Mortgage Bldg.
Phone Fairfax 8232 Houston, Texas

JOHN F. WEINZIERL
CONSULTING GEOLOGIST
ADVISOR ON GEOPHYSICAL INSTRUMENTS
619 Petroleum Bldg., Houston, Texas

HIRSCH, BROWN AND SUSMAN
Attorneys at Law
Bankers Mortgage Building.
Houston, Texas
Specializing in Oil Law and Land Law

FOR SALE—Two thousand feet 2½" 5-Ply Goodyear Oil Suction Hose 50-foot lengths with connections procured at a sacrifice in a trade. Submit us an offer.
CAROLINA HARDWARE CO.
924 Gervais Street, Columbia, S. C.
P. O. Box No. 993.

PATENTS
Patents Obtained, Trade Marks
Patent Causes
JESSE R. STONE
Formerly Assistant Examiner
United States Patent Office
Andrews, Streetman, Logue & Mobley
12th Floor Union N. Bk., Houston, Texas

TEXAS SAND & GRAVEL CO., Inc.
Waco, Colorado and Amarillo, Texas
Washed and Screened Gravel and Sand, Pea Gravel, Dredged Pit run Gravel, Road Gravel, and railroad ballast.
Home Office: 1904 Amicable Bldg., Waco, Texas
Plants: Waco Texland Colorado Tascosa Ady Saragosa
Phone 4467 and 4468
SERVING ALL THE TEXAS FIELDS

Puente Wildcat

Los Angeles.—Richfield Oil Company has re-cemented Didier 1, a wildcat test near Puente which promises to make a commercial producer at 3435 feet. About 100 feet of oil sand and shale was cut, and while the sand did not compare favorably with that in Los Angeles Basin fields, it showed oil enough to make a small well, it is believed.

Los Angeles—The Winann Oil Company, headed by J. B. Stoddard and Fred G. Delaney, has been in the midst of an aggressive leasing campaign. This company has acquired leases at Cat Canyon, Richfield, Lawndale, Signal Hill and Elwood, in addition to other leases surrounding wildcat wells that are now being drilled in several localities.

In the Cat Canyon field the company has two producers, the production amounting to approximately 1000 barrels a day, and expects to be in the oil sand with the third well within a week. The drilling program in this field calls for about 20 wells.

At Richfield the Winann and Continental Oil Company are jointly developing the territory south of the railroad tracks at Atwood station. The first well has been on the pump for a month, and the second well was spudded in last week.

The Winann and Continental are also jointly drilling at Lawndale, having obtained a number of leases in that locality. Their Phoel 1, on Market Street, near Sixth, is to be spudded in within a day or two, and their Alexander 1, on Sloup and Maryland, is about rigged up.

WANTED

Well established and growing Advertising Agency in Houston has opening for man who has *some* knowledge of Advertising but *More* knowledge of oil field equipment and its uses. Who knows the needs of men who use tools and equipment in the fields and is able to think, talk and perhaps write intelligently about them. Probably the man we want is now employed by some manufacturer of oil field material where his daily work brings him in contact with the advertising and sales departments, and, who has the desire to get into the advertising business and make it his life work; or maybe he is employed by some oil company. Present knowledge of advertising will not be a deciding factor, but desire to learn and the ability to apply your equipment knowledge to advertising will be. A splendid opportunity awaits the man who takes advantage of this announcement. Give full details, experience and qualifications. Address Box XA, The Oil Weekly, Houston, Texas.

W. ARMSTRONG PRICE
Geologist
808 Esperson Bldg., Houston, Texas
Telephones: Preston 3764 and Hadley 1687

CONFIDENTIAL SCOUT REPORTS
on all CALIFORNIA FIELDS and WILDCATS
So. Calif. Weekly.....$10 per mo.
Nor. Calif. Weekly.....$10 per mo.
Nor. and So. Calif. Daily....$10 per mo.
Combination rates furnished on request.
Munger Oil Informatnon Service
416 Haas Bldg. Los Angeles, Cal.

THE PARIS OF AMERICA
NEW ORLEANS
New St. Charles
One of America's Leading Hotels
ACCOMMODATING 1000 GUESTS
ALFRED S. AMER & CO., LTD.
New Orleans, La.
Send for descriptive folder, illustrated Mardi Gras Program for the asking.
Valorization offices for all transportation lines in lobby.
HOME OF WINTER RACING

Coastal Oil Finding Company
Contracts taken for Torsion Balance Work
Esperson Bldg., Houston, Texas
Phone Preston 4726

McCollum Exploration Company
Contracts taken for Seismograph Work
UNITED STATES
3522 Connecticut Ave.,
WASHINGTON, D. C.
FOREIGN COUNTRIES
1211 Esperson Bldg.,
HOUSTON, TEXAS

THE FT. WORTH LABORATORIES

Field Gas Testing. Analysis of oil field brines, gas minerals and oil. Sell Thermometers, Hydrometers and Laboratory Glassware
F. B. Porter, B. S., Ch. E., Pres.
R. H. Fash, B. S., Vice-President
828½ Monroe St. Ft. Worth, Tex.

SKILLED SUPERVISION GUARANTEES THE QUALITY OF GULF PRODUCTS

COASTAL AND PARAFFINE CRUDES
GASOLINE — LUBRICATING OILS
NAPHTHA — GAS — OILS
WAX — PETROLEUM COKE
CYLINDER—ENGINE—CORDAGE

GULF REFINING COMPANY

General Sales Offices

PITTSBURGH, PA.

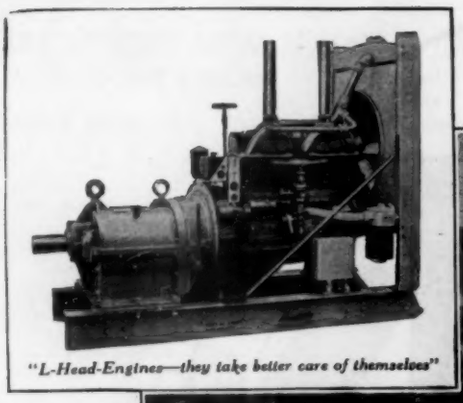
District Sales Offices

New York Boston Philadelphia Louisville Atlanta Houston New Orleans

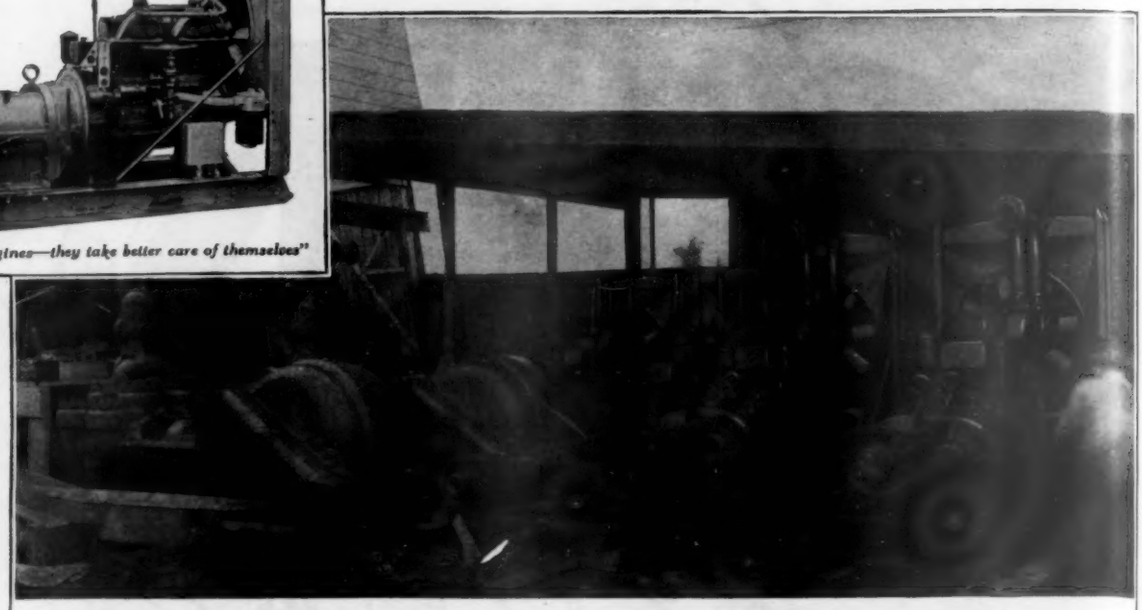
Ocean Terminals

Boston (Beverly), Mass.
Providence, R. I.
New York Harbor (Bayonne, N. J.)
Jacksonville, Fla.
Port Tampa, Fla.
Mobile (Magazine Point, Ala.)
Philadelphia (Girard Point, Pa.)
Charleston, S. C.
Savannah, Ga.
New Orleans (Gretna, La.)
Port Arthur, Texas
Galveston, Texas

Say you saw it in The OIL WEEKLY



"L-Head-Engines—they take better care of themselves"



Meade Bros. Are No Exception!

ANY driller who has used Waukesha Oil Field Power Units will tell you that they reduce drilling costs. *Meade Bros. are no exception.* **Their rotary drilling equipment at Maud, Okla., is powered by four 120 hp. Waukesha Engines.**

Waukesha Engines may be used interchangeably for driving the slush pump or rotary head and the draw works. They run on waste gas or gasoline and are particularly adapted to country where water is scarce. Built in various sizes up to 120 hp., they meet all oil field production requirements with the most economical size engine. Write for bulletin 710--"What's New with Waukesha."

911

OIL INDUSTRY EQUIPMENT DIVISION

WAUKESHA MOTOR COMPANY

New York Tulsa **Waukesha, Wisconsin** Houston San Francisco

Exclusive Builders of Heavy-Duty Internal Combustion Engines for Over Twenty Years

Say you saw it in The OIL WEEKLY

NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS

New Oil Well Drilling Control

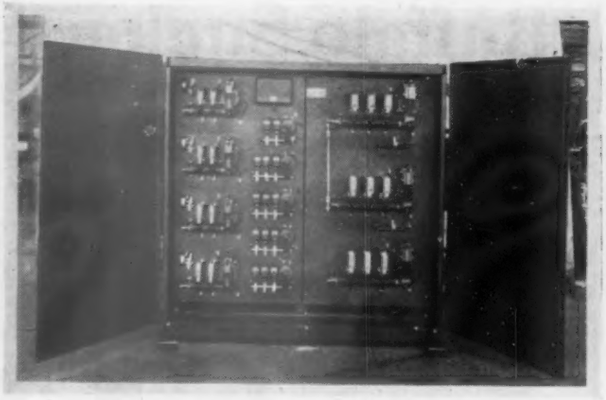
GENERAL ELECTRIC COMPANY

The General Electric Company announces a complete control equipment, bearing the designation CR7876, which has been especially designed for the heavy-duty requirements of rotary drilling. This development comes as a result of continued increase in deeper drilling—4,000 to 6,000 feet and more—and because of the heavier duty resulting from modern rotary drilling practice.

The new equipment utilizes magnetic control. The apparatus consists of a primary and secondary magnetic panel, a special resistor, a fused safety enclosed entrance switch, a master switch, a current transformer and an ammeter. All this equipment except the ammeter is mounted on angle-iron framework and is completely wired before shipment. The framework is so designed and braced that it can be handled as a unit in the fields and thus moved and installed with minimum expense and delay.

The base of the frame is built with parallel angle-iron skids turned up at the ends and provided with holes by means of which a cable can be attached to pull the unit in or out of the motor house. Eye-bolts are also provided to facilitate handling.

The new control equipments are designed for 150-horsepower, 440-volt, slip-ring induction motors. The panel has 10 control points. The primary is handled by mechanically-interlocked, triple-pole, reversing contactors of 300 amperes capacity. The first four accelerating contactors are triple-pole, of 75 amperes capacity, with the poles delta connected across the resistor. The next four contactors are double-pole, of 150 amperes capacity, each provided with a "ticker" type of time-limit relay. These relays are set for the same time delay with the exception of the one controlling the contactor giving maximum starting torque, and this is set for a 50 per cent longer delay. Thus the motor is given time to start the heaviest load of which it is capable, or to exert maximum torque long enough to determine definitely whether it will start a string of "frozen" casing or break loose a bit which is stuck in the hole. The last contactor is a double-pole, 300-ampere unit.

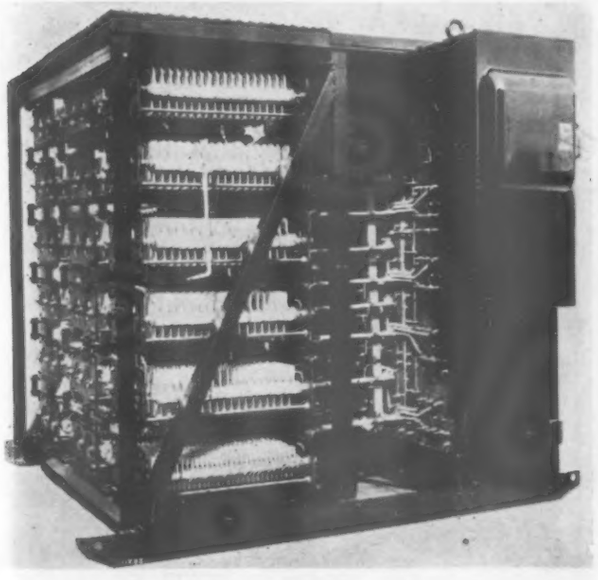


Control Panel

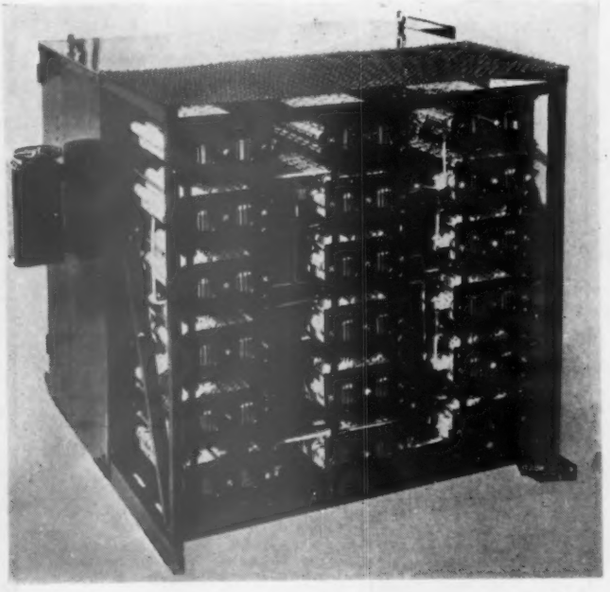
The panel is also equipped with a standard temperature overload relay and with an undervoltage contactor actuated by a contact in the "off" position of the master switch.

The most important feature of the new control, according to the manufacturer, is the use of automatic time delay during accelerations. This prevents the driller from abusing the motor and control by abruptly moving the controller around to the full speed point to "open the throttle wide." On the other hand, it enables him to obtain a consistently rapid acceleration without being held up on an intermediate control point, even though a high-current peak results. He can expect to get maximum starting torque from the motor if necessary without the inconvenience of running by the control point which gives it.

"Ticker" relays are not used on the first few control points, being unnecessary because relatively large blocks of resistance per step are used. The first two control points



Magnetic Control Unit (rear view)

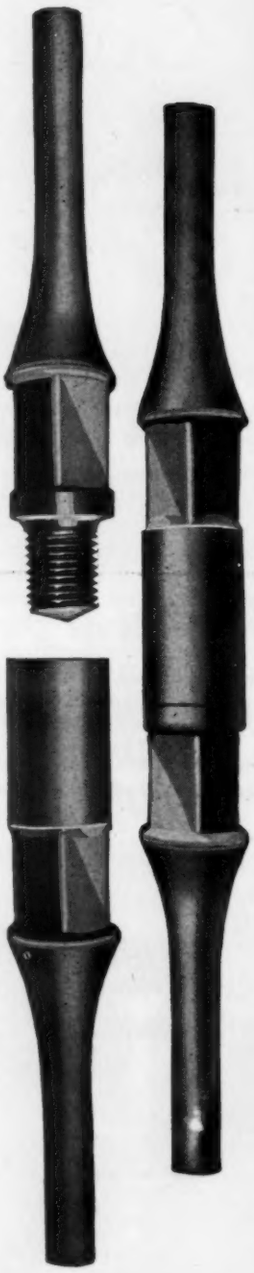


Magnetic Control Unit (side view)

Get Assured Dependability
And Quality In

Buffalo Sucker Rods

Buffalo Rods have many years of experience behind them and have been favorably known by operators all over the world for a long time. You take no chance with this rod. Send us an order and if the Buffalo Rod fails to live up to your expectations you do not owe us a cent.



Buffalo Rods Have Made Records

Millions of feet of these rods have been used. We will be glad to tell you of operators who use this rod and the records they have made with it. WRITE OR WIRE US NOW!

Inquiries from Supply Dealers Invited.

BUFFALO BOLT COMPANY
NORTH TONAWANDA, N. Y.

SALES OFFICES
Monadnock Bldg., Chicago, Ill. | General Motors Bldg. Detroit, Michigan | Pioneer Trust Bldg. Kansas City, Mo.

cut in or out a large block of resistance used to obtain low running speeds at light loads such as are needed for idling the drilling bit off the bottom of the hole. At such times, because of the settling of mud around it, the bit might become "frozen in" if the motor were stopped for a short period.

The panel is enclosed in a sheet metal cover with hinged doors which can be locked if desired. A metal floor is used at the bottom in front of the panel to prevent water from splashing on the contactors when the floor of the motor house is cleaned with a hose, a common practice. The tiers of resistors are protected by a screen cover over the top. The resistor sections are assembled in the framework with end plates omitted and with the tie-rods so supported on straps attached to the frame that each section may be readily pulled out like a drawer to facilitate replacements. The resistor design is special for rotary drilling service and was determined entirely by experience over a period of years.

Chicago Pneumatic Portable Compressors, gasoline engine driven, are now made in five sizes, as: 100, 220, 265 and 310 cubic feet of free air per minute. This complete line is described in detail in Bulletin 979, fourth edition, which has recently been issued. A copy of the bulletin will be sent to anyone addressing the Chicago Pneumatic Tool Company, 6 East 44th Street, New York City.

Fort Worth, Texas.—West Texas district offices maintained here by the Parkersburg Rig & Reel Company have been moved from the Petroleum Building to larger quarters on the ninth floor of the W. T. Waggoner Building. Paul Brooks is district manager of sales, and H. L. Brock is in charge of the office.

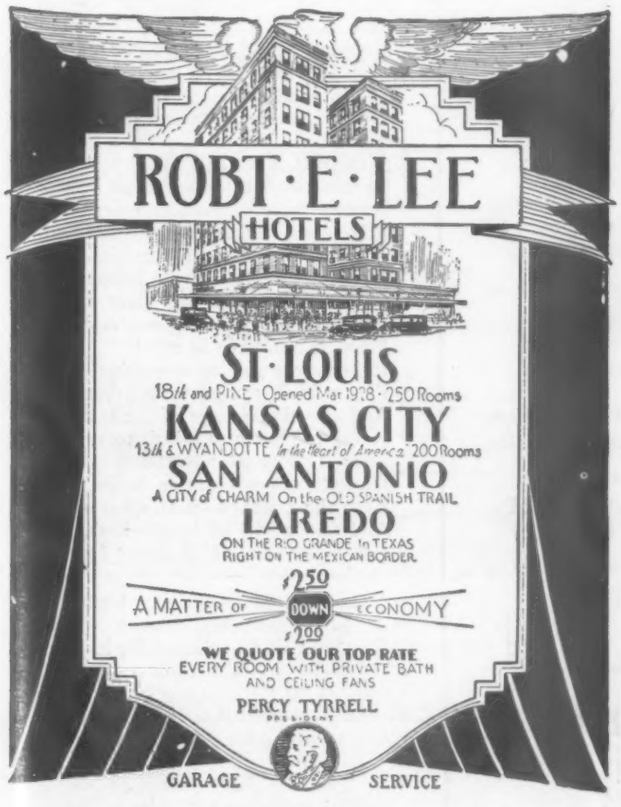
A HOME FOR OIL MEN

Charleston Hotel
LAKE CHARLES, LA.
Million Dollar Hotel
OPENING FEBRUARY 25, 1929
Operated by
DALEY - MOFFATT HOTEL CO.

Every Sale

Every sale of a Steelex Ball & Seat makes friends; the Purchasing Agent, in particular, is pleased because he knows he has bought the best possible ball and seat for use in wells where excessive sand is present—a unit that will wear and cause no trouble.

The Charles N. Hough Manufacturing Co.
FRANKLIN, PENNSYLVANIA



Geophysical Surveys

Geophysical Research Corporation

65 Broadway, New York City

Squeaks From the Bull Wheel

The way of the landlubber at Port Houston is beset with tribulations.

Into the forward hold of the American Ss Lena Luckenbach, docked at Pier 13 Monday, clanged 20-foot lengths of rusty iron pipe while the grizzled third mate shouted an occasional command from the bridge.

Came the landlubber.

"Pipe?" asked the uninitiated one.

"Looks to be."

"Where is it going?"

"Los Angeles. Aimee McPherson's addin' a high C to her pipe organ."—Houston Chronicle.

"Were you fired with enthusiasm when you tackled your first job after leaving college?"

"Was I? I never in my life saw a man so glad to get rid of me."

Spare Parts

"What are you doing now?"

"I have found a new circus turn—the friendship of a lion and a goat."

"But aren't there quarrels between them?"

"Oh, yes, they have their little quarrels, but then we buy a new goat."

"Yes, sir, I learned to play entirely by ear."

"And you have never had the earache?"

I believe that you should have an alienist examine your son.

Not me. An American doctor is good enough for me.

A man of inquiring disposition tried an interesting experiment with an ordinary salt water herring. He put the fish into a large bowl of salt water, every day substituted an equal amount of fresh water until the herring lived and thrived in purely fresh water.

The man was so pleased with the success of the experiment that he began daily to remove a small quantity of water from the bowl until it was empty. The herring seemed to do very well without it and since it lived in the empty bowl he took it out and put it in a cage.

There it lived happily, hopping from perch to perch, just like a bird, until one day some sudden noise startled it, and it fell in the water trough and was drowned.

"Are you the groom?" asked the bewildered old gentleman, at a very elaborate wedding.

"No, sir," was the reply of the embarrassed young man, "I was eliminated in the preliminary try-out."

Wife: "I just bought a set of Shakespeare."

Husband (angrily): "How many times have I told you not to buy those foreign tires?"

She was in Alaska, looking over a fox farm. After admiring a beautiful silver specimen, she asked her guide: "Just how many times can the fox be skinned for his fur?"

"Three times, madam," said the guide gravely. "Any more than that would spoil his temper."

"Whut da ticket foh?" exclaimed Rastus to his better half as they climbed into their decrepit flivver parked on Main Street all morning. He had found the tag tied to the steering wheel.

"Don't throw dat ticket away, boy," remonstrated Mrs. Rastus, "dat number might win us somethin'."

It did.

The following advertisement recently appeared in a New York newspaper:

For Sale: Packard, 1929 De Luxe Sedan, $2,400. Light eight, purchased in September, $2,700, driven 5,000 miles; excellent condition. Wife can't reach pedals, and I'm tired arguing.—Box XYZ.

Below is the only answer the advertiser received:

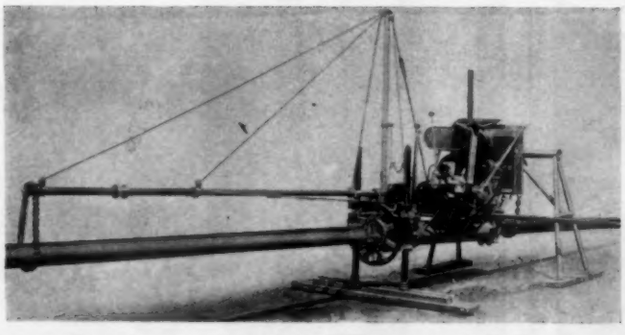
Dear Box XYZ:
In these days of competition
Among those of the fairer sex,
Why observe mere superstition
And let one so sorely vex?
Every tale must have its lesson;
Each cloud, they say, is silver lined,
And so I do not mind confess
What it is I have in mind.
It behooves you to remember
Packards do not grow on trees.
And one the vintage of September
Is far too much at which to sneeze.
Take my counsel, advertiser,
Do not your wisdom so bedim;
Keep the Packard—it is wiser—
And find a girl of longer limb.

—*Wall Street Journal.*

A bunch of the germs were hitting it up
In the Bronchial saloon;
Two bugs on the edge of the larynx
Were jazzing a ragtime tune.
Back of the teeth, in a solo game,
Sat dangerous Ack-Kerchoo.
And watching his pulse was his light of love,
The lady that's known as Flu.

—*With apologies to Robert W. Service.*

CUT PIPE LINE COSTS



NEW MODEL 4-5-6 INCH PIPE MACHINE

EQUIPPED WITH—Continental Motor, Four Speed Transmission, Multiple Disc Clutch, and Finest Gears, Shafts, and Castings Manufactured.

WILL LAY FROM ONE TO TWO MILES A DAY WITH SMALL CREW — SIMPLE TO OPERATE — STURDY, AND ALWAYS DEPENDABLE

Machines For Laying All Sizes From Four To Twelve Inch Pipe FOR SALE OR LEASE

We Now Manufacture Three Sizes of Bending Irons

CALIFORNIA PIPE LINE MACHINE CO.

2710 East 14th St., Kansas City., Mo.

J. J. MAHONEY, *President*

Moutray Oil Company

Oil Producers

805 Mims Building
ABILENE, TEXAS

THE pitfalls of careless fencing are too great for oil companies to take chances. Leaders of the industry play safe and enclose their refineries, tank farms, pumping stations, etc., with Cyclone Fence — installed by our trained erection crews. Then, they are sure of high-grade fence, properly erected, which reduces fire hazards, vandalism and public liability to a minimum. We also make wire window guards, skylight guards, sectional partitions and folding gates. Call in a Cyclone fence specialist. Wire, phone, or write nearest offices.

TEXAS CYCLONE FENCE COMPANY
Works and Offices: Fort Worth
Direct Factory Branches and Warehouses:
Houston, Dallas, Tulsa
Also Sales Offices: New Orleans, Shreveport

All chain link fence is not Cyclone. This name plate identifies the genuine Cyclone Fence.

Cyclone Fence
REG. U.S. PAT. OFF.

(C) C. F. Co. 1929

Gibson & Johnson

Producers of
CRUDE OIL

423 Mims Building
ABILENE, TEXAS

Second National Bank

Houston, Texas

"Growing with Houston"

INDEX TO ADVERTISERS

J. S. Abercrombie Company 27
Ajax Iron Works 100-101
Ala, Haasenstein & Vogler .....
Alco Oil Tools Company 171
Allis-Chalmers Manufacturing Co..... 15
All Steel Products Manufacturing Co..201
Alten's Foundry & Machine Works ... 33
Aluminum Company of America .....
Amerada Petroleum Corporation 32
American Association of Petroleum Geologists .....
American Cable Company .....
American Car & Foundry Co. 178
American Hammered Piston Ring Co... 26
American Iron & Machine Works ...
American Telephone & Telegraph Company .....
American Steel Works 41
American Well Works 110
Anderson-Prichard Oil Corp. 208
Andrews Steel Company 207
B. K. Appleman .....
Paul Arbon & Company .....
Ash Grove Lime & Portland Cement Company 204
Askania-Werke, A. G. .....
Athey Truss Wheel Company .....
Axelson Machine Company ...4th Cover

Baash-Ross Tool Company .....
Baker Oil Tools, Inc. 68
Baldwin Chain Company 108
Barber-Greene Company .....
William S. Barnickel & Company 216
Bartlett Hayward Company .....
Bartlesville Supply Company .....
Beaumont Iron Works 11
Beebe Brothers .....
Bessemer Gas Engine Company 160
Bethlehem Steel Company 121
Big Lake Oil Company 24
Boykin Machinery & Supply Company
The Brewster Company 14
Bridgeport Machine Company 142-143
Broderick & Bascom Rope Company ..102
Buckeye Traction Ditcher Company ..
Buffalo Bolt Company 222
Burns Tool Company 120
Butler Manufacturing Company 155
A. M. Byers Company .....
Byron Jackson Pump Company .....

California Pipe Line Company 224
Cameron Iron Works 146-147
Philip Carey Company .....
Carolina Hardware Company 218
Central Alloy Steel Corp. 173
Chain Belt Company .....
Charleston Hotel 222
Chicago Bridge & Iron Works .....
Chicago Pneumatic Tool Company ...
Clark Brothers Company 21
Climax Engineering Company 185
Coastal Oil Finding Company 218
Colona Manufacturing Company .....
Columbia Nut & Bolt Company 110
Columbia Steel Tank Company 175
Continental Motors Corporation .....
Continental National Bank 217
Continental Supply Company 37-70
Fred E. Cooper 159
C. & G. Cooper Company 138-139
Crescent Belt Fastener Company 130
Curtis & Curtis Company 97
Cyclone Fence Company 225

D. & B. Pump Company 79
Darling Valve & Manufacturing Co.... 30
E. M. Dart Manufacturing Company ..128
Diamond Drill Carbon Company 117
Disc Bit Division Byron Jackson Pump Company .....
Drane-Humphrey Company, Inc..... 38
Dunn Manufacturing Co. .....
E. I. du Pont de Nemours & Co. Inc. .....2nd Cover

Economy Pump & Oil Tool Company.
E. H. Edwards Manufacturing Co....
Electric Controller Manufacturing Co.. 8
Elliott Core Drilling Company 19
Emsco Derrick & Equipment Company
Empire Companies 198
Exchange National Bank of Tulsa.....157

Fenwick-Reddaway Manufacturing Co..
First National Bank, Tulsa 153
Fort Worth Laboratories 218
Franklin Valveless Engine Co. 177
Frederick Iron & Steel Company 212
Freeman Thompson Shoe Co. .....
Frick-Reid Supply Corporation 145

Gardner-Denver Company 123
Garlock Packing Company 115
Gaso Pump & Burner Manufacturing Company 3
General Electric Company 113
Geophysical Research Corp. 223
Gibson & Johnson 225
B. F. Goodrich Rubber Company .....
H. P. Gott Manufacturing Company..122
Gray Tool Company .....
Guiberson Corporation 74-75
Gulf Caribbean Steamship Company ..
Gulf Refining Company 219
Gulf States Utilities Company 65

Halliburton Oil Well Cementing Co. .. 42
Hardway & Cathey 218
Erle P. Halliburton Company .....
Hayes Stellite Company .....
Harrisburg Pipe & Pipe Bending Company .....Front Cover
Harrisburg Pipe & Pipe Bending Company of Texas .....
Hazard Wire Rope Company 105
Hercules Motors Corporation .....
Hercules Supply Company 151
Hercules Tool Company .....
Heydrick Mapping Company 218
Hill, Hubbell & Company 169
Hinderliter Tool Company 76
Hirsch, Brown & Susman 218
Hope Engineering & Supply Company.194
Houma Chamber of Commerce .....
Charles N. Hough Manufacturing Co..223
Houston Engineers .....
Hughes Tool Company 61
Hyatt Roller Bearing Company .....
Humble Oil & Refining Company ...

Imperial Royalties Company.....
Ingersoll-Rand Company 203
International Derrick & Equipment Company 4-5
International Supply Company .....
Interstate Trust & Banking Company..

Jarecki Manufacturing Company ....
Jensen Brothers Manufacturing Co. ..210
S. M. Jones Company 216
Kennedye-Plumb Corporation 188
Kerotest Manufacturing Company ... 9
Keystone Pipe & Supply Company ...214

Landis Machine Company 18
Larkin & Company 39
Layne & Bowler Company .....
LeBus Rotary Tool Works 183
Robert E. Lee Hotels 223
Lincoln Electric Company 26
Linde Air Products Company .....
Link-Belt Company 134-135
Lone Star Gas Company 128
Louisiana National Bank .....
Lucey Products Corporation .....
Ludlow Valve & Manufacturing Co....
Maintenance Engineering Corporation..114
Magnolia Petroleum Company .....
J. H. McEvoy & Company .....
Maloney Tank & Manufacturing Co...104
McCullom Exploration Company 218
McIntosh & Seymour Corporation 167
McMan Oil & Gas Company 215
Manzel Brothers Company .....
Martin-Loomis Corporation .....
Martin Wagon Company .....
Mason Regulator Company 165
Phillip Maverick .....
Mead Morrison Company .....
Samuel L. Mellon .....
Metric Metal Works 17
Mid-Continent Oil & Gas Ass'n 187
Miller Combination Bailer & Pump Company .....
Robert J. Miller Company .....
Mission Sales Company .....
Lee C. Moore & Company 29
Moutray Oil Company 225
Munger Oil Information Service 218
Murray Brooks Hardware Company ...
Murray Tool & Supply Company 181

National Petroleum Engineering Co. ..214
National Supply Companies 12
National Transit Pump & Machine Company .....
New Jersey Asbestos Company 191
Norris Brothers .....
Norvell-Wilder Hardware Company .....3rd Cover
R. D. Nuttall Company .....
Nye Tool & Machine Works 7

O'Brien Steel Construction Company... 16
O. C. S. Manufacturing Company 148
Oil Well Supply Company 44
Oklahoma Gas & Electric Company 106-107
Oklahoma Portland Cement Co. 217
Oxweld Acetylene Company .....

Parkersburg Rig & Reel Company ... 87
Patterson-Ballagh Corp. 162
Pattin Brothers Company .....
Peden Iron & Steel Company .....
Penberthy Injector Company .....
Petroleum Engineering University ....
Petroleum Rectifying Company 83
Pittsburgh Equitable Meter Company..
Pittsburgh Steel Products Company ...
Prairie Pipe Line Company 28
Pratt & Whitney Company 126
Price, W. A. 218

Reading Iron Company 189
Reed Roller Bit Company .....Insert
Regan Forge & Engineering Co. .....
Joseph Reid Gas Engine Company 129
Republic Supply Company 197
Republic Iron & Steel Company .....
Rhode Island Fitting Company .....

Safety Pulling Machine Company.....
Second National Bank 225
Shaffer Specialty Company 211
Shaffer Tool Works 114
Sheldon Machinery Corp. 125
Sinclair Refining Company 85
Skelly Oil Company 150
S-K-F Industries 35
A. O. Smith Corporation .....
Smith Separator Comaany 213
H. C. Smith Manufacturing Company.. 6
Howard Smith Company .....
South Chester Tube Company .....
Southern Blue Print & Supply Co. ..218
Southern Engine & Pump Company..214
Southern Mill & Manufacturing Co....111
Spang & Company .....
Spang Chalfant & Company 25
Springfield Wagon Company 22
Standard Steel Works .....
Standard Supply & Hardware Co. ...
Stanley Belting Corporation .....
Star Drilling Machine Company 124
St. Charles Hotel 218
Jesse R. Stone 218
Sullivan Machinery Company 40
Sun Oil Company 215
Sweetwater Board of City Development 104

Taubman Supply Corporation .....
Templeman, Kenley & Company 130
Texas Creosoting Company .....
Texas Cyclone Fence Company .....
The Texas Company .....
Texas-New Mexico Power Co. 199
Texas Power & Light Company 94
Timken Roller Bearing Co. 80
Texas Sand & Gravel Company 218
Titusville Iron Works 23
Trimont Manufacturing Company.....103
Trumble Gas Trap Company .....
Twin Disc Clutch Company .....
Tyler Tube & Pipe Company 212

Union Carbide and Carbon Corporation
Union Wire Rope Corporation 91
United Iron Works 34
United States Torpedo Company .....

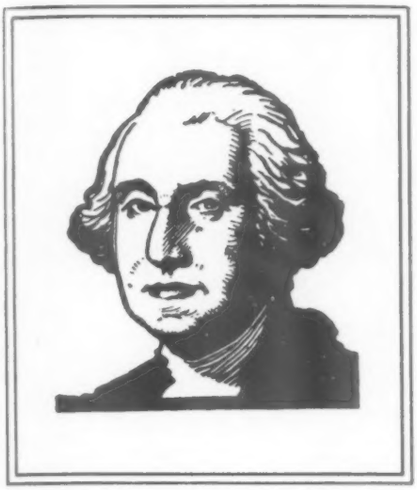
Victaulic Company of America 10
The Vez Company 93

Ward Chemical Company 190
Waukesha Motor Company 220
John F. Weinzierl 218
Westinghouse Electric & Manufacturing Company 118
Wichita Falls Motor Company .....
West Texas Coaches 112
West Texas Utilities Company 13
Wickwire-Spencer Steel Company .....
Wico Electric Company .....
Wiemann-Kemmerer-Wright Company
Williams Bros., Inc. 132
J. H. Williams & Company .....
Williamsport Wire Rope Company ...
Wilson Oil Tools Corporation.....131
Wilson-Snyder Manufacturing Co. 116
Wilson Supply Company .....
W-K-M Company .....
T. T. Word Supply Company 36
Wright Manufacturing Company 43

Yale & Towne Manufacturing Co.....
Young Engine Corporation 31

THIS IS THE TRUTH-- SO HELP US,

GEORGE WASHINGTON



MORE than a hundred years before the first oil well was drilled the immortal George Washington knew of petroleum and its value. While on his earliest military mission in 1753 Washington explored the area which afterward became the Pennsylvania oil field and there found springs whose waters were covered with a thick scum of petroleum, used by the Indians for light and heat. He later became owner of an area of rich oil land and many times declared petroleum would be a highly important industry.

AS PROMISED—WHEN PROMISED

To follow the precepts of this great American is a worthy ambition and no firm may rightly do less than serve as best they can and tell the truth about that service. Norvell-Wilder, for eighteen years in the oil field supply business, has endeavored to build up an enviable record of true service, realizing the importance of getting the right tool at the right time to the field man. That they have not failed in this effort is proven by the faith of constant customers.

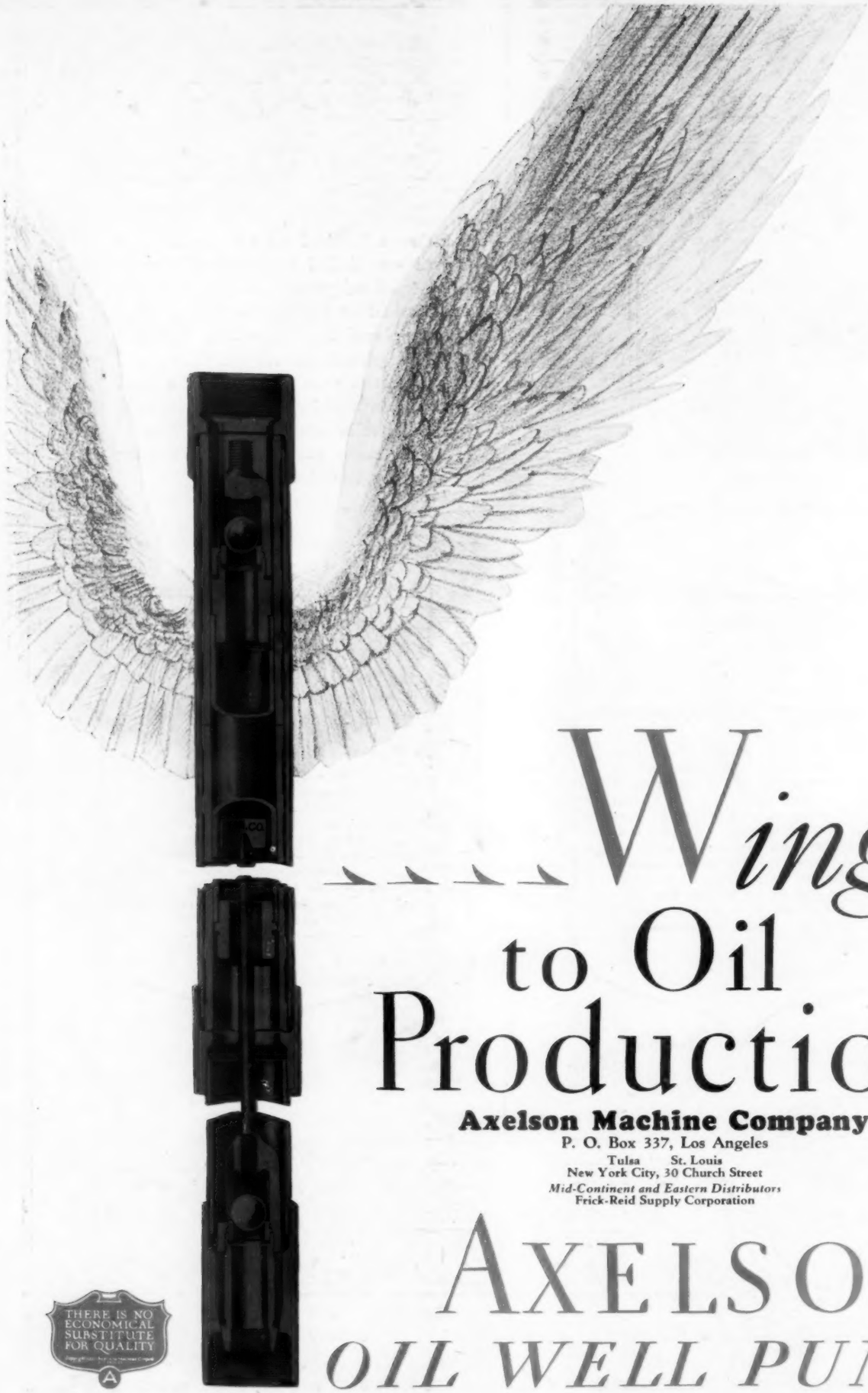
PRODUCTS OF EIGHTEEN YEARS SELECTION

Behind every sale there must be a worthy product before that sale may be counted a success. Knowing this, Norvell-Wilder through eighteen years has selected for oil men, products that have in the test of time lived up to the truthful representations of the manufacturers that made them. It has been no simple task but through the years of trial and elimination they have taken what they tru.hfully believe to be the best.

NORVELL WILDER HARDWARE CO. QUALITY AND SERVICE

NORVELL WILDER HARDWARE CO.

BEAUMONT HOUSTON SHREVEPORT FT. WORTH



Wings to Oil Production

Axelson Machine Company

P. O. Box 337, Los Angeles

Tulsa St. Louis

New York City, 30 Church Street

Mid-Continent and Eastern Distributors

Frick-Reid Supply Corporation

THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY

AXELSON

OIL WELL PUMPS